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TWIN CITY RAPID TRANSIT CO.

1944 CONSULTANT'S REPORT

SEC REGISTRATION STATEMENT
Dated 9-26-1944
Data as of 6-30-1944

TCRT was in the process of re-financing the First Lien & Refunding 5½% Bonds due 12-1-1952. The information in the SEC statement apparently was taken from this 1944 consultant's report. The following is information in the SEC statement that adds to the information in the consultant's report.(*)

The TWIN CITY RAPID TRANSIT **CO.** was organized 6-21-1939 in Minnesota to succeed the TWIN CITY RAPID TRANSIT **COMPANY** organized 6-4-1891 in New Jersey.

Pages 11-12 Track
444 miles of which 333 were in paved streets, 54 in unpaved streets, and 57 in right-of-way and carhouse/yard. Minneapolis 241 miles, St.Paul 163 miles, and Suburban 40 miles.

Pages 13-14 Streetcars
555 one/two man cars, 144 two-man front exit cars, 1 city rear exit car (1136) and 4 double-end cars. 89 service cars.

Page 14 Buses
216 total: Mpls. St. Ry. 117, St.Paul City Ry. 47, TCMB Co. 52.
4 Garages, 2 in Minneapolis, 1 in St.Paul and 1 TCMB Co. The St.Paul garage was acquired in 1924, enlarged and improved 1940 and 1943.

Page 18 Power
The maximum power demand occurred in 1943: 45,510 KW.

The estimated cost of the new turbo-generator on order was $657,000.

(*) 4% Collateral Trust Bonds due 10-1-1964.

3

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REPORT ON
TWIN CITY RAPID TRANSIT COMPANY

W. C. GILMAN & COMPANY
ENGINEERS
NEW YORK

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TWIN CITY RAPID TRANSIT COMPANY

HISTORY

Twin City Rapid Transit Company was originally incorporated on June 3, 18~~0~~91, under the laws of New Jersey for the purpose of acquiring the Minneapolis Street Railway Company and The St. Paul City Railway Company.

On June 20, 1939, a Minnesota corporation of the same name was organized which acquired complete control and ownership on December 7, 1939, of the assets of the New Jersey corporation, which was then dissolved. No change was made in the assets, liabilities or the outstanding securities of the company. Incorporation in Minnesota was to avoid further substantial annual franchise taxes which were in effect in New Jersey.

Twin City Rapid Transit Company is a holding company and presently controls, through ownership of all capital stock and debt, the following subsidiaries:

Minneapolis Street Railway Company (Minnesota)
The St. Paul City Railway Company (Minnesota)
The Minneapolis & St. Paul Suburban Railroad Company (Minnesota)
The Minnetonka & White Bear Navigation Company (Minnesota)
The Rapid Transit Real Estate Corporation (Minnesota)
Twin City Motor Bus Company (South Dakota)
The Transit Supply Company (Minnesota).

Minneapolis Street Railway Company was organized on June 23, 1873, and The St. Paul City Railway Company on October 30, 1877.

The Minneapolis and St. Paul Suburban Railroad Company was incorporated on June 2, 1910, after a reorganization of its predecessor, Minneapolis and St. Paul Suburban Company, which was originally incorporated on June 1, 1899.

The Transit Supply Company was organized on June 12, 1907, to act as a fiscal clearing house for the subsidiaries of the Twin City Rapid Transit Company so that they could function as a single operating unit.

Because of the state law requirements in connection with railroad operations, The Rapid Transit Real Estate Corporation and The Minnetonka & White Bear Navigation Company were incorporated on June 2, 1910.

Twin City Motor Bus Company was organized on July 14, 1915, under the laws of the State of South Dakota. Control of this company was acquired by the Twin City

Rapid Transit Company in 1926 along with other bus lines, namely, the Kenney Bus Company and the Minneapolis & St. Paul Bus Line, Inc. All of these operations were consolidated into the Twin City Motor Bus Company.

The Company through its subsidiaries now operates a street railway and bus system within and between the Cities of Minneapolis and St. Paul, and surrounding metropolitan areas, including the communities of:

Hopkins
St. Louis Park
Robbinsdale
North St. Paul
South St. Paul
West St. Paul
Wildwood Park
Mahtomedi
Stillwater
White Bear
Excelsior
Tonka Bay.

The System also owns a steam electric generating plant which, together with two small, leased hydro-electric plants, supplies all the electrical energy for the street railway system.

The authority of subsidiaries to operate street cars is by virtue of Indeterminate Permits granted by the State of Minnesota, and in respect of bus operations, by virtue of certificates of convenience and necessity granted by the State's Railroad and Warehouse Commission. No local franchises are required by the Company, although the local authorities do have jurisdiction with respect to the quality of service, type of equipment, routes, etc.

The Twin City System serves its territory without any major competition. Some interurban territory is served by the Greyhound system.

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RELATIONSHIP OF TWIN CITY RAPID TRANSIT COMPANY TO ITS SUBSIDIARIES

Twin City Rapid Transit Company functions solely as a holding company, owning all of the capital stock and debt of each of its subsidiaries. The officers of the holding company have identical executive positions with the subsidiary companies. These companies are managed and operated as though they were one unit. The interchange of equipment, the combined use of major facilities, and the operation of the various companies as one unit, make necessary the reporting of the results of operation of the several transportation subsidiaries on the basis of an allocation of expenses.

Minneapolis Street Railway Company is an active operating company furnishing street car and motor bus transportation service in the City of Minneapolis. It owns all of the System's physical property which is located in the City of Minneapolis, including the steam power plant and the main office building.

The St. Paul City Railway Company is also an active operating company, supplying street car and motor bus transportation service in the City of St. Paul. It owns all of the physical property located in the City of St. Paul, including the Snelling Shops which are used for the entire system.

The Minneapolis & St. Paul Suburban Railroad Company is an active operating company which operates the suburban street railway system to surrounding communities, as well as between the Cities of Minneapolis and St. Paul. The property owned by it consists chiefly of private right-of-way, track, overhead system, and street cars.

Twin City Motor Bus Company is engaged in supplying motor bus service to several suburban communities and, in addition, operates certain bus lines in Minneapolis. The company's physical property includes chiefly motor buses and certain garage and maintenance facilities.

The Minnetonka & White Bear Navigation Company is no longer in active operation; most of its properties have been sold and its remaining assets are now rather inconsequential.

The Rapid Transit Real Estate Corporation's remaining assets are now minor and the company is inactive.

The Transit Supply Company is merely a corporate entity through which all costs of operation are kept and allocated to the various system companies. This company acts as a fiscal agent for all of the system companies, receiving the daily receipts of cash, making all disbursements and purchasing all of the various items of materials, supplies, fuel, etc.

TERRITORY SERVED

Minneapolis and St. Paul (generally referred to as the Twin Cities) are strategically located near the geographic center of the North American Continent. They are at the head of navigation on the Mississippi River, and are the railroad center for the northwest, being served by 10 major railroads which operate over 50,000 miles of road in 21 states. The airlines and motor transport facilities in the northwest have headquarters located in these Cities.

The population within the greater metropolitan area is estimated at 950,000 for 1943, of which 860,000 are served by the Company. The population growth of this area has been as follows:

Year	Minneapolis	St. Paul	Total Minneapolis & St. Paul	Suburban Villages Served	Total Population Served
1900	202,718	163,065	365,783	Not Available	
1910	301,408	214,744	516,152	Not Available	
1920	380,582	234,595	615,177	Not Available	
1930	464,753	271,606	736,359	49,406	785,765
1940	492,370	288,023	780,393	64,888	845,281
1943 (Estimated)	506,000	300,000	806,000		

The Twin Cities are located in a rich agricultural section and near the largest iron ore producing center of the world.

There are approximately 1,750 manufacturing industries and 2,200 wholesale business firms located in this area. The 10 most important products manufactured, based on dollar value, are:

1. Flour and Mill Products
2. Textiles
3. Printing
4. Linseed Oil
5. Foundry and Machine Shop
6. Food Products
7. Bread & Bakery Products
8. Iron and Steel Products
9. Car and Steam Railroad Repair Shops
10. Animal Feed.

A partial list of important industrial and transportation concerns located in the Twin Cities, is as follows:

Name	Nature of Business	Where Located
General Mills, Inc.	Flour Milling-Gold Medal Products	Minneapolis
Pillsbury Flour Mills Co.	Flour Milling	"
Minneapolis-Moline Implement Co.	Farm Machinery	" & Hopkins
Minneapolis-Honeywell Regulator Co.	Automatic Regulating Devices	Minneapolis
Munsingwear, Inc.	Underwear, hosiery, etc.	"
Strutwear Knitting Co.	Underwear, hosiery, etc.	"
Archer-Daniels-Midland Co.	Linseed Oil - Feeds	"
Minneapolis Brewing Co.	Beer	"
Northern Pump Co.	Hydraulic hoists and pumps	"
Cream of Wheat Corp	Cereal Foods	"
Janney-Semple-Hill Co.	Wholesale Hardware	"
Land-O-Lakes Creameries, Inc.	Butter and Milk Products	"
Minneapolis Electrical Steel Castings	Electric Machinery	"
D. W. Onan & Sons	Electric Ltg. Plants & Machinery	"
Minneapolis, St. Paul & Ste. Marie Railway	Railroad (Main Office & Shops)	"
Minneapolis & St. Louis Ry. Co.	Railroad (Main Office & Shops)	"
Ford Motor Plant	Automobiles & Tractors	St. Paul
Brown & Bigelow	Advertising Specialties	"
Swift & Co.	Meat Packing Plant	So. St. Paul
Armour & Co.	Meat Packing Plant	"
American Hoist & Derrick Co.	Heavy Lifting Devices	St. Paul
International Harvester Co.	Farm Machinery	"
Northwest Air Lines, Inc.	Air Transportation	"
Great Northern Railway	Railroad (Main Office & Shops)	"
Northern Pacific Railway	Railroad (Main Office & Shops)	"
Theo. Hamm Brewing Co.	Beer	"
Jacob Schmidt Brewing Co.	Beer	"
Waldorf Paper Products	Insulating Material & Wall Board	"
Minnesota Mining & Mfg. Co.	Abrasives	"
A. O. Smith Company	Welded Steel Pipe, Automobile Frames, etc.	Minneapolis

Most of the various items manufactured under normal conditions are staple products. General business activity has been stimulated by war demands and by the participation in war work by many of the major local industries. The only war projects developed in the area are certain air fields, the Federal Cartridge Company, and the Gopher Ordnance Plant. Construction of the last named plant has been completed, but as yet the plant has never been operated.

The trend of general industrial activity in the area is indicated by annual sale of electric power to large light and power (industrial) customers by Northern States Power Company (Minnesota) from 1931 to date with an accompanying index, and similar indices for industrial activity in the United States and for total electric power sales to industrial customers in the United States, as follows:

	Industrial Electric Power Sales in Twin Cities Area - Northern States Power Company (Minnesota)		U.S.Federal Reserve Board Index of Industrial Activity	Total Electric Power Sales to Industrial Customers in the United States
Year	Millions of Kwh	Index 1935-39 = 100	1935-39 = 100	Index 1935-39 = 100
1931	391.5	94	75	79
1932	326.1	77	58	66
1933	328.5	78	69	72
1934	369.4	86	75	79
1935	376.3	90	87	87
1936	446.5	104	103	103
1937	448.3	104	113	109
1938	401.6	95	89	92
1939	444.8	106	109	109
1940	473.7	114	125	127
1941	556.7	133	162	162
1942	594.9	149	199	188
1943	769.0	191	239	225

The following data taken from the 1940 United States Census indicates the diversification of employment in the Twin Cities area:

	United States Census - 1940					
	Minneapolis		St. Paul		Combined Cities	
	Number Employed	% of Total	Number Employed	% of Total	Number Employed	% of Total
Wholesale & Retail Trade	50,612	27.2%	26,777	25.6%	77,389	26.6%
Manufacturing	40,132	21.5	22,569	21.7	62,701	21.6
Transportation & Public Utilities	18,015	9.7	13,022	12.5	31,037	10.7
Professional Occupations	18,979	10.2	10,743	10.3	29,722	10.3
Personal Service	19,155	10.3	9,127	8.8	28,282	9.7
Financial, Insurance & Real Estate	12,296	6.6	6,074	5.8	18,370	6.3
Government	7,878	4.2	6,318	6.1	14,196	4.9
Construction	8,817	4.7	4,647	4.5	13,464	4.6
Business & Repair Services	5,098	2.7	2,388	2.3	7,486	2.6
Amusements	2,309	1.2	996	.9	3,305	1.1
Agriculture and Mining	739	.4	498	.5	1,237	.4
Not Classified	2,356	1.3	1,057	1.0	3,413	1.2
Total Gainfully Employed	186,386	100.0	104,216	100.0	290,602	100.0
Total in Labor Force	36,569		21,231		57,800	
Grand Total	222,955		125,447		348,402	

The dollar volume of recorded expenditures for building construction, including repairs and alterations, for the years 1928 to 1943, inclusive, are as follows:

Year	Minneapolis	St. Paul	Total
1928	$23,257,725	$8,737,665	$31,995,390
1929	20,960,135	9,205,574	30,165,709
1930	13,449,340	11,084,281	24,533,621
1931	12,371,660	13,994,547	26,366,207
1932	6,426,805	3,064,024	9,490,829
1933	2,537,360	5,309,187	7,846,547
1934	3,113,065	2,528,316	5,641,381
1935	4,690,790	3,551,677	8,242,467
1936	7,195,795	7,381,263	14,577,058
1937	7,529,855	7,229,131	14,750,986
1938	7,761,710	7,265,364	15,027,074
1939	15,646,185	8,331,410	23,977,595
1940	10,224,485	9,751,767	19,976,252
1941	10,919,265	9,705,178	20,624,443
1942	3,746,035	4,730,075	8,476,110
1943	1,868,725	1,487,138	3,355,863

Automobile ownership per capital for the Twin Cities on the basis of passenger automobiles licensed has been as follows:

	Minneapolis		St. Paul		Minneapolis & St. Paul
Year	Passenger Automobiles Licensed	Persons per Passenger Automobile	Passenger Automobiles Licensed	Persons per Passenger Automobile	Persons per Passenger Automobile
1920	49,868	7.6	25,185	9.3	8.2
1922	60,417	6.6	29,765	8.1	7.1
1924	81,515	5.1	33,867	7.2	5.7
1926	99,736	4.4	49,608	5.0	4.6
1928	104,339	4.4	55,141	4.7	4.5
1930	115,700	4.0	58,160	4.7	4.2
1932	113,465	4.3	57,480	4.9	4.5
1934	123,230	4.0	59,096	4.8	4.4
1936	135,806	3.6	67,800	4.2	3.8
1938	138,840	3.5	71,790	4.0	3.8
1940	143,225	3.4	77,041	3.7	3.5
1942	153,262	3.3	80,107	3.7	3.4
1943	145,231	3.5	75,850	3.8	3.6
	139,131 - 4.2		72,660		
	133,288 - 4.2		69,610		

Approximately 40% of all dwelling units in Minneapolis and 46% in St. Paul are owner-occupied. The majority of homes are small single units, and a recent census bulletin reported that 91.8% of the dwellings in Minneapolis were not in need of major repairs.

Conclusions as to Territory

The Twin Cities area has had a steady and consistent growth in population. The character of business enterprises and the distribution of employment are well diversified. War activity has improved the general level of business, but principally through the increased activity of existing enterprises rather than through the development of newwar plant projects.

The record of expenditures for building construction indicates a substantial back log of this type of activity after the war.

According to recent surveys, made particularly in Minneapolis, officials of various industries are optimistic with respect to postwar employment and feel that a high level of business activity can be maintained. Our study of available data, some of which is summarized in this report, leads us to the same general conclusion.

Automobile ownership in Minneapolis and St. Paul has been continuously above the national average and in 1940 there were only 8 cities of over 300,000 population (out of a total of 30) in the United States which had more automobiles per capita. In spite of this fact the volume of traffic on the system operated by Twin City Rapid Transit Company has been maintained at a reasonably high level, indicating general public acceptance of that system as a public transportation facility.

Some of the more important trends leading to these conclusions are shown graphically by the curves in Charts I and II.

DESCRIPTION OF PROPERTY

The Company owns through its subsidiaries track, street cars, motor buses, car houses, garages, shops, a steam electric generating plant, substations, overhead and underground distribution facilities, and other related appurtenances, described below. Ownership by specific subsidiaries has been disregarded in this description.

Track and Roadway

The track system is designed so that with the exception of a few crosstown lines all of the routes originate from the loop areas of both Minneapolis and St. Paul. Five car lines operate from Minneapolis to contiguous St. Paul, which is located to the southeast. Several lines also extend to adjoining suburbs.

As of January 1, 1944, the System owned 444 single track miles of standard gauge track located in 215.14 miles of street and private right-of-way, as follows:

Single Track Miles	
First Track	221.6
Second Track	195.7
Car House & Storage Yards	27.0
Total	444.3

Before 1932 the System owned 523 miles of single track but the abandonment of most of its suburban rail operation has reduced its track mileage.

The natural sand and gravel subsoil condition which is prevalent in this area provides an excellent track base. Little concrete track foundation has been constructed because of this type of terrain, although in a few locations underlying peat has caused occasional foundation trouble.

Since 1920 all rail joints have been thermit welded. The track consists chiefly of 102 lb., 93 lb., and 80 lb. T-rail on wood ties, with concrete or granite pavement. Most of the special work is of manganese insert steel construction.

A summary of the miles of paved and unpaved track, together with the type of paving, is as follows:

Miles of Paved and Unpaved Tracks on City Streets

(Single Track Miles)

	Paved		Unpaved		Total
	Miles	%	Miles	%	Miles on City Streets
Minneapolis	197.91	87.7	27.77	13.3	225.68
St. Paul	126.12	82.7	26.45	17.3	152.57
Total Minneapolis & St. Paul	324.03	85.7	54.22	14.3	378.25
Columbia Heights	0.13				
Hopkins	0.01				
South St. Paul	7.96				
Robbinsdale	1.03				
Total Suburban	9.13	-	-	-	9.13
Grand Total	333.16		54.22		387.38

General Summary of Paving

	Sq. Yds.
Granite	906,368
Concrete	464,197
Brick	123,008
Asphalt	44,485
Creosote Blocks	31,962
Macadam	22,038
Sandstone	14,043
Tarvia	204
Wood Plank on Bridge	72
Total Square Yards	1,606,377

Passenger Equipment

The System owns 704 street cars and 221 gasoline motor buses.

Street Cars

All of the street cars were designed and built at the System's shop, and all cars except four are of the single end operation type. The average seating capacity of street cars is about 45. All but 151 of the cars have been subsequently rebuilt and equipped for one-man operation. A detail of this equipment is outlined as follows:

No. of Cars	Date Built	Type as of 1944 (a)	Rebuilt for Front Exit	Rebuilt for 1-Man, 2-Man	Cost Per Car (b)
1	1905	D.E. 1-Man	-	1932	$ 7,175
1	1905	City Rear Exit	-	-	6,200
51	1906	1-Man, 2-Man	-	1936	8,432
29	1907	1-Man, 2-Man	-	1935	7,271
1	1907	D.E. 1-Man	1931	-	6,295
26	1907	2-Man Front Exit	1922-1924	-	6,295
7	1908	2-Man Front Exit	1922-1924	-	7,069
36	1908	1-Man, 2-Man	1922-1924	1931	8,044
46	1909	2-Man Front Exit	1922-1924	-	6,705
39	1910	2-Man Front Exit	1922-1924	-	6,383
31	1910	1-Man, 2-Man	1922-1924	1935	7,359
17	1911	2-Man, Front Exit	1922-1924	-	6,425
15	1911	1-Man, 2-Man	1922-1924	1934	7,401
14	1912	2-Man Front Exit	1922-1924	-	6,363
86	1912	1-Man, 2-Man	1922-1924	1933-1935	7,339
72	1913	1-Man, 2-Man	1922-1924	1933-1935	7,646
82	1914	1-Man, 2-Man	1922-1924	1932-1933	6,941
49	1915	1-Man, 2-Man	1922-1924	1932-1933	6,542
34	1916	1-Man, 2-Man	1922-1924	1932-1933	7,390
32	1917	1-Man, 2-Man	1922-1924	1932-1933	7,667
2	1917	1-Man, 2-Man	-	1932	15,246
2	1921	1-Man, 2-Man	-	1932	16,981
27	1928	1-Man, 2-Man	-	1930-1932	13,333
2	1925	1-Man, 2-Man	-	1925	13,309
2	1925	D.E. 1-Man	-	1925	13,309
704					

(a) All cars, as originally built, were 2-Man, rear entrance and exit type with no front entrance or exit, except on 34 cars which were 2-Man, front exit cars.

(b) At time of original construction.

The present average age of the street cars based on the date originally built is 30.5 years. This does not reflect their additional serviceable life made possible by the subsequent rebuilding and re-equipping largely during the period

1922-1936. This improvement program included the adaptation of the street cars for one or two man operation, a new door arrangement, installation of "dead man" control, and other safety devices, rewinding motors for faster operation, elimination of wood, and installation of steel siding, etc. The average age of the cars since rebuilding is approximately 16 years. The System also owns a number of service units such as locomotives, freight cars, plows, etc.

Motor Buses

The 221 motor buses owned by the System are all equipped with gasoline engines and mechanical drives. A list of this equipment showing model and make, year built, and capacity is shown below:

	No.	Make & Model	Year Built	Seating Capacity	Original Cost
	8*	White 65A	1932	22 - 25	$ 66,616
	2*	Mack BC	1933	19	15,357
	15*	Yellow 716	1934	19	101,835
	3*	Mack CW	1935	23	22,265
	14	Mack CQ	1936-1937	31	147,658
	2*	Ford 70	1937	25	10,167
	3	Mack CW	1937	25	23,412
	7*	Ford 81 & 83	1938	25	35,881
	13	Mack CY	1938	23	101,525
	5	Mack CQ	1939	31	49,686
	5	Yellow 728	1939	32	47,261
	3	Mack L-25	1940	23	18,781
	6	Ford 09-B	1940	27	31,914
	6	Mack CQ	1940	31	58,734
	6	Mack CO	1940	36	63,452
	9	White 786	1940-1941	36	93,903
	24	Mack CO	1940-1941	36	247,274
	15	Mack LC	1941	31	139,003
	45	Mack CO	1942	36	525,434
	30	Mack LD	1943	36	331,807
Total	221				$2,131,965

* Buses fully depreciated on books

The average service age of the entire fleet is 3.4 years.

The System also owns additional automotive equipment, including passenger automobiles, trucks, compressors, tractors, etc., necessary for the operation of the System.

Car Houses and Yards

The System owns 6 car houses and yards used for storage, inspection and minor maintenance of cars and as operating station headquarters. Four of these are located in Minneapolis and two in St. Paul. The names, locations, car capacities, and number of assigned cars for each of these stations are as follows:

Name	Location	Capacity	Number of Assigned Cars
1. East Side	Minneapolis	150 Cars	114 Cars
2. North Side	Minneapolis	125 Cars	101 Cars
3. Nicollet *	Minneapolis	125 Cars	118 Cars
4. Lake	Minneapolis	150 Cars	131 Cars
5. Snelling	St. Paul	200 Cars	149 Cars
6. Duluth	St. Paul	125 Cars	87 Cars
Total		875	700

* Part of station is used for buses, see under "Garages".

The East Side car house is located in the downtown area. It is the only station with 100% covered storage and is the oldest station owned by the System. At all of the stations are buildings that house the inspection pits, car washing facilities, offices, operators' locker rooms, assembly and assignment rooms and cashier's office. At all these stations only inspection and light maintenance work is done, major car repairs being made at the Snelling Shops.

Most of the buildings are from 30 to 40 years old.

Garages

Three main garages are owned by the System and two smaller ones are leased. The leased units are located in the suburban communities of Excelsior and White Bear, and are only used for storage purposes.

Minneapolis Garage

The Minneapolis Garage is a large modern garage which was built in 1927. It houses 120 buses and is also used as a bus operating station. Ample facilities are available for offices, storerooms and operating personnel. The painting of buses and seat rebuilding is also performed here. A small yard area provides additional outside storage. This garage is located near the loop area of Minneapolis.

St. Paul Garage

The St. Paul Garage is located adjacent to the loop district of St. Paul. This building was recently acquired and was formerly an automobile garage. Building changes were made to adapt it for bus use. Offices, storerooms and facilities for operators were recently constructed. This garage has a housing capacity of 80 buses. Access to the garage is only possible directly from a busy thoroughfare and the Company is making an effort to acquire an adjoining parcel of land which would make the garage more accessible as well as provide outside storage.

Nicollet Garage

The Nicollet garage is a portion of the Nicollet car house, Minneapolis, which has been remodeled for storage, inspection and minor repairs of buses. The capacity of this garage is 26 buses, with 24 buses assigned.

At all of these garages, except as noted, only inspection and light maintenance work is done, major bus repairs being made at the Snelling Shops. The garages are equipped with machinery, tools, gas pumps, parts, inspection pits, hoists, etc., so that the scheduled work can be carried on in an efficient manner.

Snelling Shops

The Snelling Shops are located in St. Paul adjacent to the Snelling car house. The shops are on a 30 acre tract of land and completely equipped for the construction and major maintenance of street cars and motor buses.

While this plant was originally built during 1905 to 1907, it is still well adapted to the work performed here. The various units include a machine shop, general repair shop, bus repair shop, heating plant, foundry, steel forge shop, oil house, stores building, kiln storage sheds, mill, erecting shop, testing laboratory, electrical shop, truck shop, paint shop, offices, etc.

An open transfer table is located in the center of the group of eleven main buildings so that the street cars, buses and car truck units can be conveniently transferred to the required locations for major maintenance work.

Ample machinery, tools and shop equipment are available not only for the thorough maintenance of all equipment but also for the construction of new cars and parts, and a large quantity of parts are actually manufactured for cars and for the electric distribution system and power plant. All of the street cars, including the trucks were built at this plant.

Office Buildings

The general offices of the Company are located in a four-story building in downtown Minneapolis. This brick and concrete structure was originally built in 1904 and the fourth floor was added in 1925. The area occupied by the building is approximately 148' x 80'.

A railway substation occupies the rear two-story portion of the structure with a ground area of about 40' x 148'.

The System also owns an office building in St. Paul.

Steam Electric Generating Plant

The System owns a steam power plant located on the north bank of the Mississippi River adjacent to the downtown loop area of Minneapolis. The building is a brick, steel and concrete structure approximately 40 years old. Ample facilities are available for the handling and storage of coal received either by rail or barge. Condensing water is taken directly from the Mississippi River.

The rated generating capacity installed in the plant is 74,000 kw, although only 64,000 kw is suitable for operation.

A detail of installed boiler and generator equipment follows:

Boilers

	Pressure	Temperature	Fired By	Installed	Operation
1 - 556 hp B. & W.	200#	500°	Strong-Scott burner and gas	1903	Continuous
5 - 556 hp B. & W.	200#	500°	B. & W. Chain Grate Stokers	1903	Reserve
2 - 514 hp B. & W.	200#	500°	B. & W. Chain Grate Stokers	1910	Reserve
1 - 514 hp B. & W.	200#	500°	B. & W. Chain Grate Stokers	1912	Reserve
6 - 556 hp B. & W.	200#	500°	Westinghouse 7-retort underfeed stokers	1905	For winter operation
2 - 175,000#/hr. B. & W.	460#	735°	Westinghouse 14-retort underfeed stokers and gas	1932	Continuous
1 - 150,000#/hr. Comb. Eng. Co.	475#	735°	Pulverized coal and gas	1941	Continuous

Generating Equipment

	Installed	Operation
1 - 20,000 kw horizontal turbo-generator Rehabilitated	1917 1932	Continuous
1 - 15,000 kw vertical turbo-generator	1913	Continuous
1 - 15,000 kw vertical turbo-generator	1912	Continuous
1 - 14,000 kw vertical turbo-generator	1911	Reserve unit
2 - 5,000 kw vertical turbo-generators	1907	Reserve for emergency operation only.

All generation is at 13,200 volts, 35 cycle a-c, which is the System's transmission voltage. In the early days 35 cycle electric equipment was installed and all such equipment additions have been 35 cycle machines.

The Company has authorized the purchase of a 15,000 kw, 35 cycle horizontal turbo-generator at a cost of approximately $650,000 as soon as such equipment becomes available. The removal of the two 5,000 kw units will provide sufficient building space for the new unit, and present boiler capacity is adequate for its operation. (For further detail refer to section on Power Supply.)

Leased Hydro Plants

The System leases two hydro generating plants from the St. Anthony Falls Water Power Company, a subsidiary of Northern States Power Company (Minnesota). These plants are located on the Mississippi River at Minneapolis — the Hennepin Island Plant being a short distance up-river from the System's steam plant, and the Lower Dam Plant being a short distance down-stream from the steam plant.

Generating equipment in these plants is as follows:

Hennepin Island Plant:- Four 2,250 kw vertical turbo-generators (total capacity 9,000 kw) operating under a normal head of 48 feet. These units were installed in 1908. Generation is at 13,200 volts, 35 cycle.

Lower Dam Plant:- Vertical turbo-generators as follows:

Units		Total Capacity	Date Installed
2 - 700 kw d-c		1,400 kw	1897
5 - 700 kw a-c		3,500	1897
3 - 700 kw a-c		2,100	1898
	Total	7,000 kw	

Normal operating head is 18 feet. The a-c units generate at 3,400 volts, 35 cycle, which is stepped up to 13,200 volts by transformers located at the plant. The d-c generation is at 600 volts and is fed directly to the trolley.

The Hennepin Island Plant has been leased since 1908, and the present agreement is on a year to year renewal basis from June 1 of each year. The Lower Dam Plant has been leased since 1896 and the present agreement extends to May 31, 1947.

The System operates the plants and pays all electrical maintenance costs up to $500 per year for the Lower Dam Plant and $150 per year for Hennipin Island Plant. The Water Power Company pays 90% of all electrical maintenance costs in excess of these stated amounts.

All power generated is taken by the System and paid for at rates per kwh equivalent to the incremental cost of fuel required to generate power at the System's steam plant. These rates are currently adjusted on the basis of the costs of steam generation, assuming 85% by natural gas and 15% by coal. Present base rates are .2715¢ per kwh at Lower Dam and .2558¢ at Hennepin Island. (For further comments see section on Power Supply.)

Substations

The System owns 11 substations, including the transformer station in the Lower Dam Plant. Four are located in St. Paul and seven in Minneapolis. The equipment consists of 32 rotary converters with a total capacity of 46,500 kw, built and installed between 1903 and 1913, as follows:

Substations

Name	Location	Rotary Converters		Installed	Operation
11th St.	11th & Hennepin, Minn.	(3 - 1500 kw		1904)	Continuous
		(1 - 1500 kw		1905)	
		(1 - 1500 kw	7,500 kw	1912)	
Lowry	Lowry & 32 Ave. N. Minn.	(1 - 1500 kw		1908)	Continuous
		(1 - 1500 kw	3,000 kw	1911)	
University	4 St. & 2 Ave. S.E. Minn.	2 - 1500 kw	3,000 kw	1912	Continuous
Girard	2933 Girard Ave. S. Minn.	2 - 1500 kw	3,000 kw	1913	Continuous
Lake Street	Lake & Columbus Minn.	(1 - 1500 kw		1906)	Continuous
		(1 - 1500 kw		1907)	
		(1 - 600 kw		1942)*	
		(1 - 600 kw	4,200 kw	1942)*	
Minnehaha	2724-27th Ave. S. Minn.	(1 - 1500 kw		1911)	Continuous
		(1 - 1500 kw		1912)	
		(1 - 600 kw		1943)**	
		(1 - 600 kw	4,200 kw	1943)**	
Lower Dam	8th Av. S.E. & River, Minn.	(2 - 600 kw		1905)	For winter operation
		(1 - 600 kw	1,800 kw	1906)	
Snelling	Snelling & Univ. Avenues St. Paul	2 - 3000 kw	6,000 kw	1913	Continuous
College	College & Wabasha Sts. St. Paul	(1 - 1500 kw		1903)	Continuous
		(1 - 1500 kw		1904)	
		(1 - 1500 kw		1907)	
		(1 - 3300 kw	7,800 kw	1916)	
Hope Street	Hope & E. 7 Sts. St. Paul	(1 - 1500 kw		1908)	Continuous
		(1 - 1500 kw	3,000 kw	1912)	
Concord	Concord & Isabel Sts. St. Paul	(1 - 1500 kw		1904)	Continuous
		(1 - 1500 kw	3,000 kw	1912)	
Total			46,500 kw		

* Installed originally in 1905 and 1906 at Excelsior Substation.
** Installed originally in 1905 and 1906 at Excelsior and Hopkins Substations.

The buildings which house this equipment are of brick, steel and concrete construction.

Transmission and Distribution System

Except for the 600 volt d-c generation at the Lower Dam Plant, all electric power is transmitted from the generating plants to the rotary converter substations at 13,200 volts by transmission cables, most of which are underground in tunnels or ducts. The trolley is supplied by 600 volt d-c distribution feeders radiating from the various substations.

A brief statement of the principal elements of the power distribution system owned and operated follows:

Underground cable tunnels	10,500 feet
Cable duct under street surface	66.7 miles
4/0, 3-phase, 13.2 kv lead covered transmission cable	99 miles
1,000,000 cir mils 600 volt lead covered d-c cable	95 miles
Overhead feeder cable - 500,000 cir mils	338 miles
Circuits from substations to overhead system	137
Outdoor pole type switches connecting overhead to underground	376
Automatic sectionalizing switches	52
3/0 trolley wire	445 miles
Electric track switches	61
Signal systems	13
Steel side poles	14,350
Wood side poles	4,665

Conclusions as to Property

We have made an inspection of the plant and equipment owned and operated by the System, and our conclusions are that all of the property has been well maintained. Certain specific comments are as follows:

Track work is in good condition and no unusual amount of deferred maintenance exists. The generally favorable subsoil conditions have made it possible to obtain maximum rail life.

The System's street cars, although not of the most modern design, have been kept up in exceptionally good physical and operating condition so that they present a good appearance on the street, and have better than average operating characteristics. Its motor bus fleet, as compared with other transit properties, has a low average age and has been exceptionally well maintained.

While the car house buildings are old, their outward appearance is good and they provide ample quarters well adapted to the functions which they house, and the garage buildings are in good physical condition. All of these structures are well located from the standpoint of both present and future operations.

The Snelling Shops, while constructed many years ago, are well laid out, and are unusually well equipped and provide exceptional facilities for maintenance and construction work.

The building housing the steam generating plant, although built 40 years ago, is well designed. Except for the 20,000 kw horizontal turbine and the three high pressure boilers, the installed equipment is out of date and not suitable for dependable or efficient continuous operation. The Company plans to improve this situation by installing a new 15,000 kw turbo-generating unit of modern design, operating on 450 pounds steam pressure at 825° F. temperature. A priority rating of AA-3 has been obtained from the WPB for the purchase of this unit with its appurtenances, and the order is being placed for same at this time. (Further comments on this situation are contained in the section on Power Supply.)

The substation buildings are well designed for their functions, and their locations together with the layout of the transmission and distribution systems are well suited to the power requirements of the System.

The present physical and operating condition of the System's property is due, in our opinion, primarily to the well planned and efficiently carried out maintenance procedures of the Company, which are reviewed in the following section of this report.

MAINTENANCE PROCEDURE

Track

The System has carried on a normal schedule of track reconstruction, except for the year 1943 when the shortage of materials and manpower made such a program impossible. Annual track reconstruction expenditures, for special work and tangent track, and lineal feet of track rebuilt each year, are shown below for the years 1936 to 1943, inclusive:

Year	Expenditures	Lineal Feet of Track Rebuilt
1936	$171,118	46,524
1937	200,174	41,425
1938	76,838	2,024
1939	192,088	17,517
1940	135,877	13,208
1941	187,358	13,750
1942	136,919	11,083
1943	44,613	1,324

During 1920, a major track rehabilitation program was completed in the downtown areas of the System.

Passenger Equipment

The System has adhered to a rehabilitation program under which all street cars are rebuilt approximately every 5 years. This program consists of completely disassembling the street car which includes the removal of all electrical and other equipment, sash and siding; the inspection and repair where necessary of steel work, wiring, wainscoting, posts and roofs; interior and exterior painting; and the complete rebuilding of trucks, motors, controls, etc.

The number of street cars rebuilt and the average cost per car of rehabilitation for the years 1939 to 1943, inclusive, is shown below:

Year	Rehabilitated number of cars	Average Cost per Car
1939	150	$ 821
1940	140	905
1941	142	965
1942	176	918
1943	152	1,035

The rebuilding and all other major repair work is carried on at the Snelling Shops.

Ordinary maintenance, such as brake adjustments and inspection and cleaning are carried on at the 6 car stations. Every 14 days each car is inspected as to lubrication and condition of truck equipment, control equipment, line breaker equipment, pneumatic equipment, etc. When major units are found defective, the car is sent to the shops.

Motor bus inspection and light maintenance work is carried on at the 3 principal garages. A preventive maintenance program is followed so as to insure efficient operation and continuity of service. Thorough inspections are scheduled at 1,000, 2,000, and 6,000 miles.

Major maintenance work on the motor buses is also done at the main Snelling Shops and the System carries on a rehabilitation program for motor buses similar to that for street cars. The motor buses are completely dismantled, engines rebuilt, and transmissions and differentials inspected and worn parts replaced. Approximately 40 buses are rebuilt annually. The average mileage between such overhauls is about 125,000 miles.

Painting of buses and rebuilding of seats are done at the Minneapolis Garage.

The results of maintenance methods and efficiency can best be reflected in the average vehicle mileage per pull-in, which for the years 1935 to 1943 has been as follows:

Year	Street Car Miles Per Pull-In	Bus Miles per Pull-In
1935	9,300	--
1936	7,150	--
1937	5,900	--
1938	9,900	6,350
1939	13,055	8,230
1940	17,680	15,100
1941	17,500	23,150
1942	19,065	19,100
1943	18,850	18,120

The transit industry, generally, for the past few years, has been handicapped in its ability to maintain its car and bus equipment because of the shortage of necessary parts. The Twin City System has been fortunate, however, because it has been in a position to manufacture at its Snelling Shops many of the replacement parts necessary for its maintenance requirements.

We have examined the list of street car and bus parts manufactured at the shops. We find that the cost of these items vary from about 20% to about 71% of current purchasing costs. The manufacturing costs include the following overhead charges:

Steel Shop	30% on labor
Mill Shop	30% " "
Machine Shop	50% " "
Electrical Shop	35% " "

Power Equipment

An annual inspection with necessary major repairs of all generating equipment, boilers and appurtenances at the System's steam plant is carried on during the Spring when maximum water power is available. A second inspection is made of the boilers during the Fall of the year so as to insure uninterrupted peak operation during the winter months. The electrical generating equipment at the steam plant and the rotary converters at the substations are tested every 3 months to determine the di-electric strength of both the field and armature circuits, and if any current leakages are found, immediate repairs are made.

The underground transmission lines are inspected every 6 months. Records of the megger readings are kept on a per mile basis, and if the megger readings on any section of the cable fall below 10 megohms per mile, the cable is replaced to avoid any possible line burnouts.

The overhead trolley wire is inspected regularly and replacements are made when the remaining cross-sectional area is 50% of the original size. Trolley ears and fittings are replaced on the basis of regular inspections. In heavy traffic areas the overhead equipment is inspected every 2 months, and in sections outside of the loop area, such inspections are made every 4 months.

The System has been able to maintain a normal replacement program for trolley wire and appurtenances. The following tabulation shows car miles operated, cable failures, trolley wire replacements, etc., for the years 1939 to 1943, inclusive:

	1939	1940	1941	1942	1943
Car miles operated	21,235,734	21,058,675	20,632,646	22,263,503	25,234,934
Trolley wire replaced (feet)	84,908	121,440	100,880	66,000	92,300
Trolley ears replaced	11,062	12,250	10,586	8,440	12,567
Miles per ear	1,926	1,719	1,951	2,636	2,009
Number trolley breaks	16	38(storm)	15	13	19
Trolley breaks charged to failure of equipment	6	5	10	9	10
Number of interruptions at generating plants*	1	4	2	1	1
Average length of interruption (minutes)	8	9	15	7	6
Total cables repaired	34	18	34	14	18
Total found by meggering	25	13	15	9	12
Total cable failures	9	5	19+	5	6
Total feet of cable installed as replacement	16,424	4,266	4,520	2,010	5,630

* Principally caused by transmission cable trouble at night when the steam station is shut down and the water power plants are carrying the load.

+ One burnout caused 11 failures.

OPERATIONS

Description of Service

The service provided by the Twin City Rapid Transit Company System is rendered mainly at the present time by 34 street car and 20 bus routes. The names of these lines, general location and route mileages, together with 1941 and 1943 vehicle miles, total passengers per vehicle mile and revenues per vehicle mile are shown in the two tables that follow, arranged in the order of size based on total vehicle mileage operated in 1943. Table 1 covers street car lines and Table 2 covers motor bus lines.

It should be noted particularly from the map and from Table 2 that most of the present bus lines are either feeders to existing rail lines or operate in particularly light traffic areas. In 1941 about half of the motor bus lines then operated carried less than 2.5 total passengers per bus mile.

AVERY® PV119E

MINNEAPOLIS STREET CAR AND BUS SYSTEM

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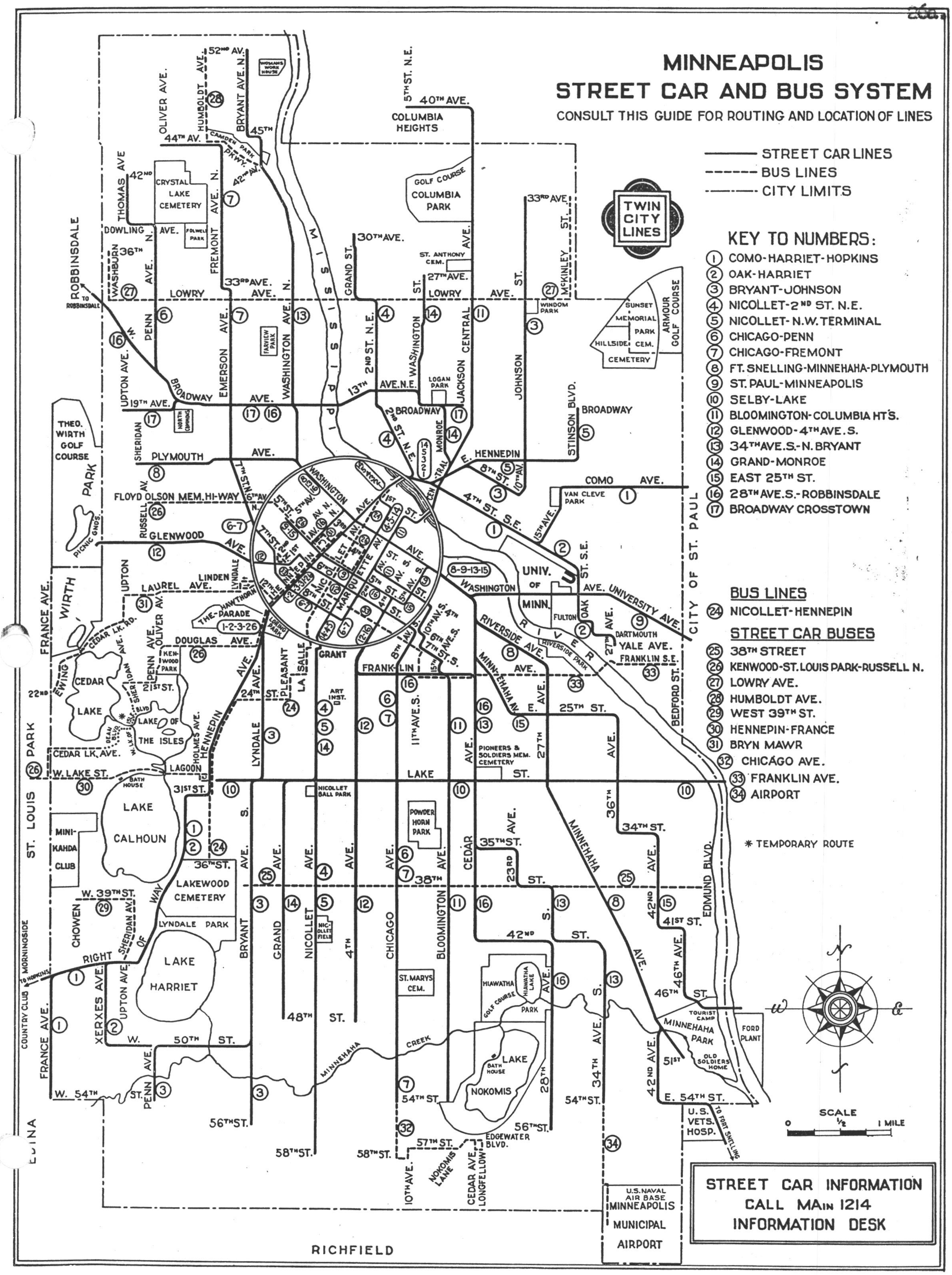

TWIN CITY LINES
MISSISSIPPI
RIVER
COLUMBIA HEIGHTS
COLUMBIA PARK
GOLF COURSE
CRYSTAL LAKE CEMETERY
ROBBINSDALE
TO ROBBINSDALE
THEO. WIRTH GOLF COURSE
WIRTH PARK
CEDAR LAKE
LAKE OF THE ISLES
LAKE CALHOUN
LAKE HARRIET
LAKEWOOD CEMETERY
LYNDALE PARK
MINI-KAHDA CLUB
LAGOON
BATH HOUSE
THE PARADE
LORING PARK
NICOLLET BALL PARK
POWDER HORN PARK
PIONEERS & SOLDIERS MEM. CEMETERY
UNIV. OF MINN.
VAN CLEVE PARK
SUNSET MEMORIAL PARK CEM.
HILLSIDE CEMETERY
ARMOUR GOLF COURSE
WINDOM PARK
LOGAN PARK
ST. ANTHONY CEM.
FAIRVIEW PARK
NORTH COMMONS
FOLWELL PARK
WOMANS WORK HOUSE
ART INST.
ST. MARYS CEM.
HIAWATHA GOLF COURSE
HIAWATHA LAKE PARK
LAKE NOKOMIS
MINNEHAHA CREEK
MINNEHAHA PARK
TOURIST CAMP
OLD SOLDIERS HOME
FORD PLANT
U.S. VETS. HOSP.
TO FORT SNELLING
U.S. NAVAL AIR BASE MINNEAPOLIS MUNICIPAL AIRPORT
TO HOPKINS
COUNTRY CLUB MORNINGSIDE
EDINA
RICHFIELD
ST. LOUIS PARK
CITY OF ST. PAUL
52ND AV.
45TH
44TH AV.
42ND AV.
CAMDEN PARK PKWY.
40TH AVE.
33RD AVE.
30TH AVE.
27TH AVE.
LOWRY AVE.
BROADWAY
19TH AVE.
13TH AVE. N.E.
PLYMOUTH AVE.
FLOYD OLSON MEM. HI-WAY
GLENWOOD AVE.
LAUREL AVE.
DOUGLAS AVE.
HENNEPIN
WASHINGTON AVE.
UNIVERSITY AVE.
RIVERSIDE AVE.
FRANKLIN AVE.
24TH ST.
25TH ST.
LAKE ST.
W. LAKE ST.
31ST ST.
35TH ST.
36TH ST.
38TH ST.
W. 39TH ST.
41ST ST.
42ND ST.
46TH ST.
48TH ST.
W. 50TH ST.
E. 54TH ST.
W. 54TH ST.
56TH ST.
57TH ST.
58TH ST.
COMO AVE.
4TH ST. S.E.
MINNEHAHA AVE.
CEDAR AVE.
NICOLLET AVE.
LYNDALE AVE.
CHICAGO AVE.
BLOOMINGTON AVE.
28TH AVE.
34TH AVE.
36TH AVE.
42ND AVE.
46TH AVE.
EDMUND BLVD.
BEDFORD ST.
EDGEWATER BLVD.
NOKOMIS LANE
CEDAR AVE. LONGFELLOW
FRANCE AVE.
XERXES AVE.
UPTON AVE.
PENN AVE.
BRYANT AVE.
GRAND AVE.
4TH AVE.
EMERSON AVE.
FREMONT AVE.
WASHINGTON AVE. N.
2ND ST. N.E.
JOHNSON ST.
CENTRAL AVE.
STINSON BLVD.
MCKINLEY ST.
RIGHT OF WAY
* TEMPORARY ROUTE
SCALE
0
½
1 MILE
N
E
S
W

——— STREET CAR LINES
------ BUS LINES
—·—·— CITY LIMITS

KEY TO NUMBERS:

① COMO-HARRIET-HOPKINS
② OAK-HARRIET
③ BRYANT-JOHNSON
④ NICOLLET-2ND ST. N.E.
⑤ NICOLLET-N.W. TERMINAL
⑥ CHICAGO-PENN
⑦ CHICAGO-FREMONT
⑧ FT. SNELLING-MINNEHAHA-PLYMOUTH
⑨ ST. PAUL-MINNEAPOLIS
⑩ SELBY-LAKE
⑪ BLOOMINGTON-COLUMBIA HT'S.
⑫ GLENWOOD-4TH AVE. S.
⑬ 34TH AVE. S.-N. BRYANT
⑭ GRAND-MONROE
⑮ EAST 25TH ST.
⑯ 28TH AVE. S.-ROBBINSDALE
⑰ BROADWAY CROSSTOWN

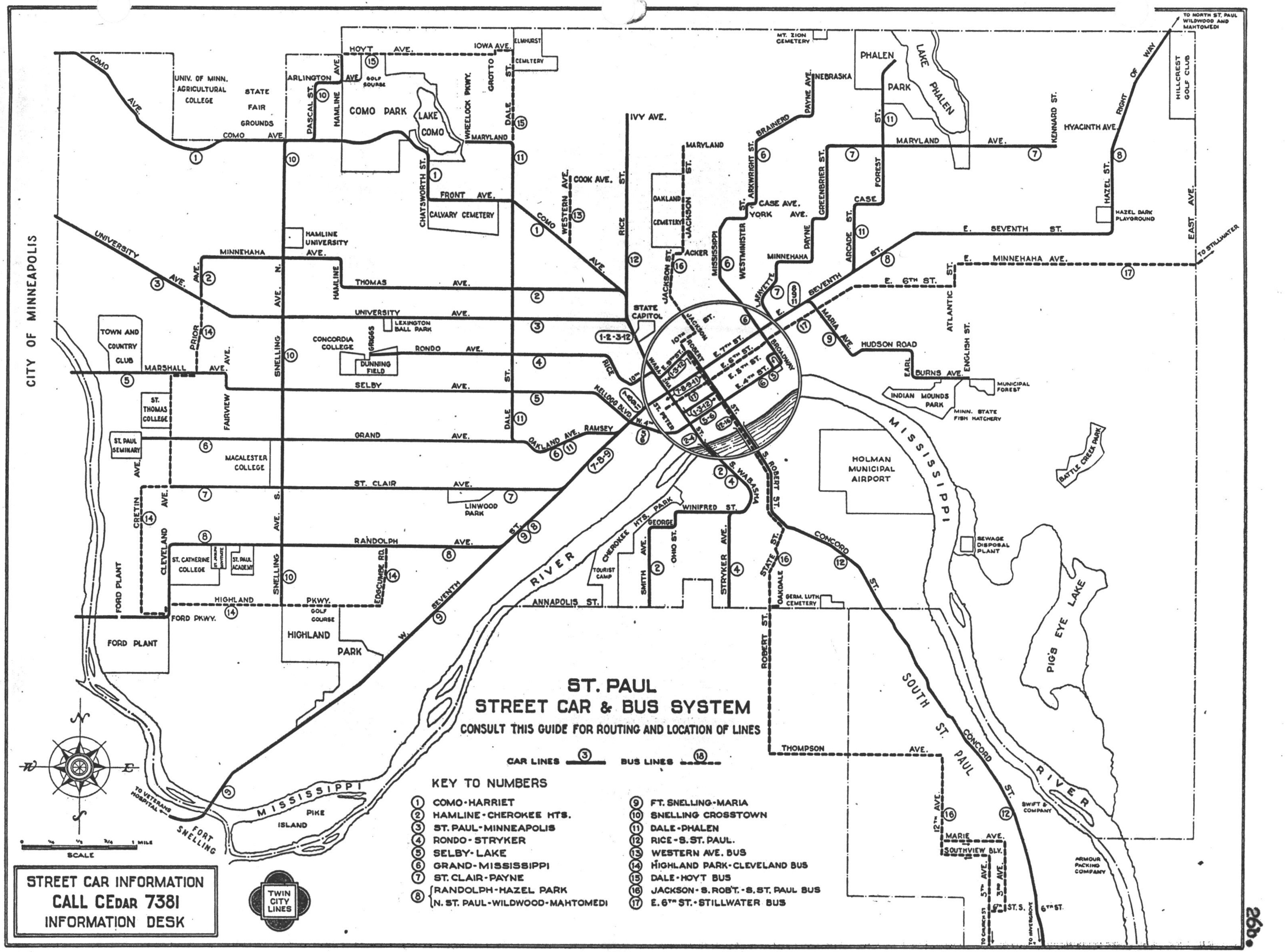
BUS LINES

㉔ NICOLLET-HENNEPIN

STREET CAR BUSES

㉕ 38TH STREET
㉖ KENWOOD-ST. LOUIS PARK-RUSSELL N.
㉗ LOWRY AVE.
㉘ HUMBOLDT AVE.
㉙ WEST 39TH ST.
㉚ HENNEPIN-FRANCE
㉛ BRYN MAWR
㉜ CHICAGO AVE.
㉝ FRANKLIN AVE.
㉞ AIRPORT

STREET CAR INFORMATION
CALL MAin 1214
INFORMATION DESK


CITY OF MINNEAPOLIS
COMO AVE.
UNIV. OF MINN. AGRICULTURAL COLLEGE
STATE FAIR GROUNDS
HOYT AVE.
IOWA AVE.
ELMHURST CEMETERY
ARLINGTON AVE.
GOLF COURSE
PASCAL ST.
HAMLINE
COMO PARK
LAKE COMO
WHEELOCK PKWY.
GROTTO
DALE ST.
MARYLAND
CHATSWORTH ST.
FRONT AVE.
CALVARY CEMETERY
HAMLINE UNIVERSITY
UNIVERSITY AVE.
MINNEHAHA AVE.
THOMAS AVE.
SNELLING AVE. N.
LEXINGTON BALL PARK
CONCORDIA COLLEGE
GRIGGS
DUNNING FIELD
RONDO AVE.
TOWN AND COUNTRY CLUB
PRIOR AVE.
MARSHALL AVE.
SELBY AVE.
FAIRVIEW AVE.
ST. THOMAS COLLEGE
ST. PAUL SEMINARY
GRAND AVE.
MACALESTER COLLEGE
OAKLAND AVE.
RAMSEY
ST. CLAIR AVE.
LINWOOD PARK
CRETIN AVE.
CLEVELAND AVE.
RANDOLPH AVE.
ST. CATHERINE COLLEGE
ST. PAUL ACADEMY
EDGCUMBE RD.
HIGHLAND PKWY.
FORD PLANT
FORD PKWY.
HIGHLAND PARK
W. SEVENTH ST.
MISSISSIPPI RIVER
PIKE ISLAND
FORT SNELLING
TO VETERANS HOSPITAL
WESTERN AVE.
COOK AVE.
RICE ST.
IVY AVE.
OAKLAND CEMETERY
JACKSON ST.
ACKER
STATE CAPITOL
MISSISSIPPI
WESTMINSTER
ARKWRIGHT ST.
BRAINERD
PAYNE AVE.
NEBRASKA
CASE AVE.
YORK AVE.
GREENBRIER ST.
ARCADE ST.
FOREST
MT. ZION CEMETERY
PHALEN PARK
LAKE PHALEN
KENNARD ST.
HYACINTH AVE.
HAZEL ST.
HAZEL PARK PLAYGROUND
RIGHT OF WAY
HILLCREST GOLF CLUB
TO NORTH ST. PAUL WILDWOOD AND MAHTOMEDI
E. SEVENTH ST.
EAST AVE.
TO STILLWATER
E. MINNEHAHA AVE.
E. 6TH ST.
LAFAYETTE
MARIA AVE.
ATLANTIC ST.
HUDSON ROAD
EARL
ENGLISH ST.
BURNS AVE.
MUNICIPAL FOREST
INDIAN MOUNDS PARK
MINN. STATE FISH HATCHERY
10TH
ROBERT
WABASHA
E. 7TH ST.
E. 6TH ST.
E. 5TH ST.
E. 4TH ST.
BROADWAY
ST. PETER
KELLOGG BLVD.
W. 4TH
HOLMAN MUNICIPAL AIRPORT
BATTLE CREEK PARK
S. WABASHA
S. ROBERT ST.
WINIFRED ST.
CHEROKEE HTS. PARK
GEORGE
OHIO ST.
SMITH AVE.
STRYKER AVE.
TOURIST CAMP
ANNAPOLIS ST.
STATE ST.
OAKDALE
GERM. LUTH. CEMETERY
CONCORD ST.
SEWAGE DISPOSAL PLANT
PIG'S EYE LAKE
ROBERT ST.
THOMPSON AVE.
SOUTH ST. PAUL
CONCORD ST.
SWIFT & COMPANY
12TH AVE.
MARIE AVE.
SOUTHVIEW BLV.
5TH AVE.
3RD AVE.
ST. S.
6TH ST.
ARMOUR PACKING COMPANY
TO CHURCH ST.
TO INVER GROVE
N
S
E
W
0 1/4 1/2 3/4 1 MILE
SCALE
TWIN CITY LINES

ST. PAUL
STREET CAR & BUS SYSTEM

CONSULT THIS GUIDE FOR ROUTING AND LOCATION OF LINES

CAR LINES ③ ━━━ BUS LINES ⑱ ╍╍╍

KEY TO NUMBERS

① COMO-HARRIET
② HAMLINE-CHEROKEE HTS.
③ ST. PAUL-MINNEAPOLIS
④ RONDO-STRYKER
⑤ SELBY-LAKE
⑥ GRAND-MISSISSIPPI
⑦ ST. CLAIR-PAYNE
⑧ RANDOLPH-HAZEL PARK
N. ST. PAUL-WILDWOOD-MAHTOMEDI
⑨ FT. SNELLING-MARIA
⑩ SNELLING CROSSTOWN
⑪ DALE-PHALEN
⑫ RICE-S. ST. PAUL.
⑬ WESTERN AVE. BUS
⑭ HIGHLAND PARK-CLEVELAND BUS
⑮ DALE-HOYT BUS
⑯ JACKSON-S. ROB'T.-S. ST. PAUL BUS
⑰ E. 6TH ST.-STILLWATER BUS

STREET CAR INFORMATION
CALL CEDAR 7381
INFORMATION DESK

Some of these One Way Route Miles figures are incorrect. (most give about one-half of the mileage.)

Table 1

Street Car Lines

	One Way Route Miles 1943	Car Miles Operated in 1000's 1941	Car Miles Operated in 1000's 1943	Total Passengers Carried per Car Mile 1941	Total Passengers Carried per Car Mile 1943	Revenue in Cents per Car Mile 1941	Revenue in Cents per Car Mile 1943
Street Car Lines in Minneapolis							
Chicago - Penn. & Fremont	5.67	1,795.4	2,480.6	7.9	8.5	44.4	50.9
Nicollet - 2nd St. N. E.	5.96	1,256.3	1,520.3	7.8	9.8	44.3	56.8
Bryant - Johnson	12.60	1,137.3	1,459.0	6.3	8.1	37.5	47.9
Minnehaha - Plymouth - Ft. Snelling	8.75	1,016.7	1,131.3	5.5	7.6	28.5	40.5
28th Ave. So. - Robbinsdale (a)	13.20	836.1	1,052.3	5.6	7.7	32.2	42.8
34th Ave. So. - No. Bryant	7.07	832.2	1,041.2	5.1	7.0	26.7	37.3
Bloomington - Columbia Heights	5.83	933.3	1,038.3	5.9	8.5	31.4	46.1
Oak-Harriet	6.48	821.4	886.6	6.6	8.8	38.1	51.9
Glenwood - 4th Ave. So.	4.60	605.9	825.8	7.7	11.8	44.4	61.1
Grand - Monroe	11.59	566.5	660.8	6.0	9.4	36.4	52.5
6th Ave. No. - East 25th St.	8.04	488.4	603.0	4.2	5.9	24.6	34.2
Broadway	3.45	180.1	180.6	3.6	6.2	16.5	29.9
28th Ave. So. - No. Emerson	3.78 (b)	-	-	-	-	-	-
Fort Snelling Stub	1.07 (b)	-	-	-	-	-	-
Inter Campus	3.61 (b)	-	-	-	-	-	-
Northwestern Terminal	2.80 (b)	-	-	-	-	-	-
Street Car Lines in St. Paul							
Randolph-Mahtomedi (a)	13.35	988.0	1,199.3	5.3	7.2	31.9	44.3
Rice - So. St. Paul	6.99	642.8	848.6	5.4	7.6	33.0	47.4
St. Clair - Payne	4.98	647.5	804.8	6.0	7.5	36.1	45.5
Grand - Mississippi	5.35	657.0	737.5	5.6	7.6	33.3	46.1
Fort Snelling - Maria	7.48	650.3	716.5	4.2	5.9	25.4	36.6
Hamline - Cherokee Heights	5.32	542.3	671.0	6.1	8.1	37.4	49.6
Dale-Forest	4.72	525.5	545.3	6.0	9.5	34.1	49.8
Snelling Crosstown	5.26	383.8	460.6	5.4	9.4	22.7	32.0
Rondo-Stryker	2.93	286.9	302.8	5.4	8.1	33.2	45.5
Western Avenue	(c)	27.9	-	4.0	-	14.3	-
Street Car Lines Operating in both Minneapolis & St. Paul							
Como-Harriet-Hopkins (a)	22.49	1,719.0	2,077.4	6.1	8.3	36.3	50.4
Selby-Lake	10.81	1,573.1	2,012.7	9.3	12.0	43.8	58.3
Minneapolis - St. Paul	10.36	1,328.2	1,745.3	8.8	11.5	49.8	68.1
System Total - Street Car (d)		20,441.9	25,001.6	6.6	8.7	36.6	49.6
% Increase 1943 over 1941		-	22.2%	-	31.8%	-	35.5%
(a) Includes Suburban line operations:							
Robbinsdale		89.2	114.9	5.3	8.1	16.8	25.5
Mahtomedi		142.2	146.4	2.4	4.4	14.2	26.2
Hopkins		104.2	107.5	2.8	5.6	17.2	35.3

(b) Operations included in other lines.
(c) Operation discontinued in 1941
(d) Excluding mileage of special cars, 10,000 car miles in 1943.

Table 2

Motor Bus Lines

Name of Line	One Way Route Miles 1943	Bus Miles Operated in 1000's 1941	Bus Miles Operated in 1000's 1943	Total Passengers Carried per Bus Mile 1941	Total Passengers Carried per Bus Mile 1943	Revenue in Cents per Bus Mile 1941	Revenue in Cents per Bus Mile 1943
Bus Lines in Minneapolis							
Kenwood-St. Louis Park (Minn. St. Ry.)	8.96	603.9	663.9	3.7	5.8	24.9	36.4
Franklin Ave.	4.24	250.5	525.6	5.4	7.8	33.4	43.8
Nicollet-Hennepin*	4.37	354.4	409.1	3.7	5.4	37.1	53.7
38th St. Crosstown	4.29	342.0	339.8	4.9	8.3	18.3	30.3
Lowry Ave.	5.85	276.2	291.8	3.4	5.6	14.7	26.9
Bryn Mawr	3.75	152.5	174.9	3.5	4.5	20.0	27.4
Kenwood St. Louis Park* (Twin City Motor Bus(a))	6.59	-	85.8	-	5.7	-	28.4
West 39th St.	1.23	57.8	56.5	2.3	3.7	8.5	14.5
Humboldt Ave.	1.60	47.4	46.3	1.8	3.2	7.1	14.1
Chicago Ave.	1.59	40.7	45.4	2.9	4.6	11.2	17.9
Robbinsdale (a)	2.20	-	39.7	-	8.5	-	30.8
Minneapolis Air Port (a)	1.20	-	28.7	-	4.6	-	24.4
West Lake (b)	1.75	-	-	-	-	-	-
University Ave.*	(c)	617.7	-	1.6	-	19.6	-
Marshall-Lake*	(c)	389.4	-	1.2	-	14.6	-
Bus Lines in St. Paul							
6th St.-East Ave. Stillwater (d)	18.72	513.6	675.2	2.4	3.3	21.8	30.8
Jackson - So. St. Paul	10.00	389.9	454.5	3.5	5.3	23.0	36.0
Highland Park	5.75	176.8	202.0	3.1	4.9	13.1	22.0
Dale Street	2.40	37.0	43.2	1.8	3.2	6.5	13.9
Western Ave.	.65	12.6	36.7	4.0	6.1	14.5	22.1
St. Paul Air Port (b)	2.08	-	-	-	-	-	-
Suburban Bus Lines							
Glen Lake - Excelsior	20.34	434.7	559.1	1.2	1.9	22.2	36.6
White Bear	13.73	208.4	295.9	1.0	1.8	20.6	34.3
Bus Lines Operating in both Minneapolis and St. Paul							
Interurban		-	49.9	-	5.6	-	40.7
Sightseeing, Chartered & Special Lines		154.6	155.0	-	-	37.3	31.9
Federal Cartridge Co. (a)		-	1,220.6	-	-	-	22.7
System Total - Bus Lines		5,060.1	6,399.6	2.7	3.9	22.1	32.4
% Increase, 1943 over 1941		-	26.3%	-	44.3%	-	46.5%

(a) Operation started in 1942.
(b) Operation included in other lines.
(c) Operation discontinued in 1942.
(d) Includes Suburban operation to Stillwater 263.0 269.4 .6 1.2 15.5 29.3
* Operated by Twin City Motor Bus Company, no transfers accepted.

The average operating speed during the non-rush hours for city rail service is 12.41 miles per hour and for the rush hour service the average speed is 11.22 miles per hour. Suburban service operates at about the same speed within the city and on private rights of way reaches an average speed of about 20 miles per hour.

The average bus operating speeds are as follows:

	MPH
Minneapolis	12.25
St. Paul	14.17
Suburban lines	19.63
Total	15.97

The speeds as indicated above are above the average of comparable street car and bus operations.

Operating Statistics

The substantial increase in volume of riding since 1941 has required an increase in car and bus schedule requirements as is indicated by the number of units required for typical weekday schedule of April 1941 and April 1944 as follows:

Maximum Units Scheduled (Week Day)

	April 1941	April 1944	% Increase
Street Cars			
Minneapolis	352	448	27.5
St. Paul	170	227	33.5
Total	522	675	29.7%
Motor Buses	123	165	34.3%

Total passenger revenues in a similar period increased about 70%.

There are a number of motor buses owned which are not now scheduled to operate but all except about 4% of the street cars owned are needed for present schedules.

The proportion of total service furnished by motor buses has not changed materially since 1929, although the System abandoned a substantial portion of its suburban trackage in 1932 and three city car lines in 1940 and 1941. Certain unprofitable motor bus routes were abandoned in 1934, 1941 and 1942. The trends in operated track mileage, bus route miles, revenue car and bus miles for the years

1929 to 1943, inclusive, are shown as follows:

Year	Single Track Miles 12/31	Total Bus Route Miles 12/31	Revenue Car Miles Operated*	Revenue Bus Miles Operated*	Bus Miles in % of Total Vehicle Miles
1929	519.99	139.51	29,350,857	4,434,437	13.1%
1930	522.49	147.03	27,640,223	4,393,078	13.7
1931	523.68	145.95	26,439,873	4,373,378	14.2
1932	476.64	159.24	25,032,081	4,094,953	14.0
1933	475.05	159.64	22,715,240	3,965,137	14.9
1934	473.53	133.27	22,716,746	3,569,914	13.6
1935	472.97	134.46	22,666,217	3,570,750	13.6
1936	472.87	132.57	22,946,672	3,569,834	13.5
1937	472.62	138.32	22,719,100	3,564,614	13.5
1938	458.85	143.89	21,860,732	3,676,889	14.4
1939	453.32	150.24	21,039,029	4,354,502	17.2
1940	446.30	156.94	20,772,198	4,720,324	18.5
1941	445.26	159.14	20,441,940	4,920,661	19.4
1942	444.23	164.50	22,067,727	4,789,765	17.8
1943	444.26	170.70	25,001,560	5,024,495	16.7%

* Not including chartered cars or buses.

The passenger revenues produced by the operation of street cars and motor buses for the same period are indicated below:

Total Passenger Revenue

Year	Railways	Buses	Bus Revenue in % of Total
1929	$12,265,439	$1,048,284	5.1%
1930	11,220,323	934,668	7.8
1931	9,684,634	787,241	7.5
1932	8,361,820	639,877	7.1
1933	7,430,703	573,056	7.2
1934	7,806,127	601,393	7.1
1935	7,897,599	661,654	7.8
1936	8,459,295	719,634	7.9
1937	8,283,111	695,287	7.8
1938	7,638,873	691,534	8.3
1939	7,499,045	826,074	9.9
1940	7,379,527	935,041	11.2
1941	7,479,789	1,063,932	14.0
1942	9,864,364	1,335,207	13.4
1943	12,390,770	1,744,265	12.5%

The revenue passengers for the years 1929 to 1943 are shown below. These do not include transfer passengers which average about 40% of the total revenue passengers:

Year	Revenue Passengers Street Cars	Buses	Total	Bus Passengers % of Total
1929	160,875,805	6,921,777	167,797,582	4.1%
1930	145,034,975	6,389,573	151,424,548	4.2
1931	124,924,579	5,966,890	130,891,469	4.6
1932	107,805,717	5,226,842	113,032,559	4.6
1933	95,724,150	4,663,119	100,487,269	4.7
1934	100,556,351	4,914,609	105,470,960	4.7
1935	101,873,298	5,457,344	107,330,642	5.1
1936	109,243,758	5,951,766	115,195,524	5.2
1937	107,019,105	5,750,365	112,769,470	5.1
1938	98,634,031	5,928,112	104,562,143	5.7
1939	96,810,872	7,577,275	104,388,147	7.3
1940	95,254,153	9,059,466	104,313,619	8.7
1941	95,348,932	10,592,936	105,941,868	10.0
1942	115,696,135	13,288,808	128,984,943	10.3
1943	154,930,669	18,349,428	173,280,097	10.6%

The System operates approximately 65.5% of its street car service, measured in terms of car hours with one-man cars. The heavier car lines in both Minneapolis and St. Paul are still operated with two-man cars, as are also the three car lines connecting Minneapolis with St. Paul.

Fare Structure and Fare Collection

The System has been permitted to increase its basic fare from time to time from 6¢ to 10¢ by the Railroad and Warehouse Commission over the period from 1920-1943, with similar increases in token rates, as follows:

Minneapolis Street Railway Company and St. Paul City Railway Company

August 16, 1920	6¢ cash	(Previous Fare 5¢)
August 1, 1925	8¢ cash	10 Tokens for 60¢
January 1, 1926	8¢ cash	6 Tokens for 40¢
January 26, 1929	10¢ cash	6 Tokens for 45¢
November 7, 1941	10¢ cash	6 Tokens for 50¢
April 11, 1943	10¢ cash	6 Tokens for 45¢

The local fares of Twin City Motor Bus Company are 10¢ cash with no token rate.

For a ride between Minneapolis and St. Paul two city fares are required.

The fare structure of The Minneapolis and St. Paul Suburban Railroad Company's operation has remained the same since October 6, 1920. The rides on this operation are divided into 6¢ zones. The bus company's fares for interurban operation are based primarily upon the length of the ride.

Free transfers are issued after the payment of all basic fares.

Normally all street cars, whether one-man or two-man, are operated pay enter. Entrance is at the rear for two-man cars and at the front for one-man cars. The exceptions to this are the three through lines between Minneapolis and St. Paul on which two local fares are collected for a through ride. These cars are all two-man, and are operated pay enter when leaving either Minneapolis or St. Paul, and pay leave as soon as the border line between the two cities is crossed. When operated pay enter, entrance is at the rear only, and when operated pay leave, exit is at the rear only.

All motor buses are one-man and are operated pay enter.

Street collectors are used only in the winter at certain heavy boarding points in downtown areas.

In general, registering fare boxes, manually operated, are used.

POWER SUPPLY

General

As previously stated the System generates all its electric power requirements in its owned steam plant and leased hydro plants. These power requirements, and the manner in which they have been supplied for the last few years are indicated by the following summary:

Year	Total Net Generation Kwh - (000)	Average Net Kwh Output per Car Mile Operated (a)	Maximum Daily Load in Kw Minimum (Summer Operation)	Maximum Daily Load in Kw Maximum (Winter Operation)	Annual Load Factor Based on Maximum Kw Demand
1939	115,504	5.48	26,200	40,160	32.9%
1940	116,516	5.62	26,500	41,950	31.7
1941	113,018	5.53	25,500	40,310	32.1
1942	124,213	5.63	29,650	42,970	33.0
1943	143,128	5.72	32,600	45,510	36.0%

(a) Including all power use for shops, car stations, and certain bus garages.

While the two leased hydro plants have an aggregate installed capacity of 16,000 kw, they are run of the river plants and actual available capacity depends on stream flow. This is at a maximum in the Spring and Fall of the year, and a minimum during the Summer because of low stream flow, and in the Winter because of ice conditions. At the time of system peak load, which occurs in the Winter, the hydro plants can be relied upon for only about 3,000 kw of capacity.

In 1943 the total power output was supplied as follows:

	Rated Capacity Kw	1943 Gross Kwh Generation (000)	Maximum Load Carried at any Time During Year - Kw
Steam Plant- Unit No. 4	20,000	64,034	
Unit No. 3	15,000	5,965	
Unit No. 2	15,000	1,715	
Unit No. 1	14,000	1	
Total Steam Plant (a)	64,000	71,715	39,250
Lower Dam Hydro Plant	7,000	40,870	15,050
Hennepin Island Hydro Plant	9,000	35,034	
Total - All Plants	80,000	147,619	

(a) The two 5,000 kw units (#5 and #6) are no longer operated, nor presently in condition to operate.

While all of the generating equipment is old, particularly the three vertical steam turbo generators (Units #3, #2, and #1), all have been maintained in as good operating condition as possible, and boiler plant efficiency has been kept at the highest possible level, with the result that unit generating costs are low, as indicated by the following table:

Year	Steam Generation Fuel Cost Only Cents per Kwh Generated	Total Generation Costs - Steam and Hydro - Cents per Kwh Generated (a)	Transmission and Substation Costs Cents per Kwh Generated (a)	Total Operating Costs of Power Department - Cents per Kwh Generated (a)
1937	.355¢	.466¢	.106¢	.562¢
1938	.373	.479	.118	.597
1939	.353	.466	.129	.595
1940	.361	.474	.130	.604
1941	.393	.470	.134	.604
1942	.387	.452	.130	.582
1943	.378	.464	.139	.603

(a) Above unit costs are direct costs of fuel, labor, and supplies and do not include depreciation, taxes, or return on investment in power supply property.

These cost performances, in the face of increasing fuel and labor charges, have been made possible by a new boiler installed in 1941 (equipped to burn either coal or gas) and by equipping two older boilers for gas as well as coal firing. In 1943 over 68% of the fuel used, on a Btu basis, was natural gas. Comparative fuel costs for the last three years are as follows:

	Cost in Cents per Million Btu			
Year	Pocahontas Coal	Illinois Coal	Natural Gas	Gas & Coal as Used
1941	23.1¢	21.0¢	18.2¢	19.3¢
1942	23.4	21.7	17.8	18.7
1943	26.3	21.7	17.4	18.7

Additional Generating Capacity

Because of their age, the three vertical generators in the steam plant present a real operating hazard and the Company is desirous of reducing the time of their operation to the smallest possible number of hours per year. Under present load conditions, which may well continue in large part for some years, it is necessary to run at least one of these units for considerable periods every day — particularly at times of low stream flow —, to run a second one of the units during peak hours, and to keep all three of them in condition for immediate operation during the Winter in case the horizontal 20,000 kw unit should develop any trouble. The System has no other source of power and the inability of its plants to carry the load would necessitate a curtailment or complete cessation of street car service. Because of this situation the Company, as previously mentioned, is planning to purchase and install at a cost of $650,000 a new 15,000 kw horizontal turbo generator as soon as such a machine can be secured, and has already received a priority from the War Production Board for this unit. No additional boiler capacity is needed.

At the present time, and at times in the past, the Company has made studies and has discussed with Northern States Power Company the feasability of purchasing a portion of the System's power requirements. This would seem to be a logical procedure, but the situation is seriously complicated by the fact that all of the System's generating equipment and rotary converters are designed for 35 cycle a-c, while the system of Northern States Power Company is the standard 60 cycle a-c.

An interconnection of the two systems would require a substantial investment by the Company in frequency changers, or in new converters designed to operate on 60 cycle energy. Some such investment could be justified if power could be purchased at a sufficiently low cost, but the existing applicable rate schedule of Northern States Power Company does not produce such an average cost. We understand that Northern States is unwilling to sell energy at any rate below the existing applicable schedule. This schedule and its application to a purchase of 15,000 kw at a single point of delivery produces the following average cost per kwh for the load factor indicated:

Demand Charge		
1st 100 kva of demand @ $1.50 per kva per Month (a)	$ 150	
Next 100 kva of demand @ $1.25 per kva per Month (a)	125	
Next 14,800 kva of demand @ $1.00 per kva per Month (a)	14,800	$15,075
Energy Charge (for 400 hours of demand, 55.5% load factor)		
1st 10,000 kwh per month @ 1.4¢ per kwh	$ 140	
Next 10,000 kwh per month @ 1.2¢ per kwh	120	
Next 30,000 kwh per month @ 1.0¢ per kwh	300	
Next 50,000 kwh per month @ .8¢ per kwh	400	
Excess of 5,900,000 kwh per month @ .7¢ per kwh	41,300	$42,260
6,000,000 kwh		57,335
Less 5% Prompt Payment Discount		2,867
Net Bill		$54,468 or .91¢/kwh

(A) Net, less primary voltage discount

Use at a lower load factor, or delivery at more than one point, would increase the average cost. Use at a higher load factor would probably not be feasible as the Company's load from midnight to 4 A.M. is only about 4,000 kw. Furthermore, in order to use 15,000 kw of 60 cycle power the Company would have to spend at least $300,000 for new conversion equipment, plus the cost of installing a transmission line of sufficient size with substation equipment at each end to connect the two power systems together.

On the other hand, generating costs with a new 15,000 kw generator would run less than present average costs because of the higher efficiency of a new unit and total generating costs would therefore be reduced by an amount more than sufficient to cover a liberal allowance for depreciation, taxes and return on the investment of $650,000.

Natural Gas Contract

On April 1, 1941, Minneapolis Street Railway Company entered into a contract with Minneapolis Gas Light Company for the purchase of natural gas as boiler fuel in its power plant. This contract expires on June 30, 1945.

Under the terms of this contract all the fuel requirements of the boiler plant during the months of April to October, inclusive, are to be furnished, and as much of the fuel requirements during the months of November to March, inclusive, as the gas company may in its judgment reasonably supply. Gas is delivered in accordance with priority regulations and is classified under Class 7 of the Standard

Industrial Priority Schedule, of Northern Natural Gas Company, from whom Minneapolis Gas Light Company purchases the gas.

If during any month the average heat content of the gas is less than 950 or more than 1,050 Btu per cubic feet, the costs are decreased or increased in direct relation to the change in Btu value.

The following are the basic rates:

First	5,000 Mcf per month	21¢ per Mcf
Next	25,000 Mcf per month	18¢ per Mcf
Over	30,000 Mcf per month	17¢ per Mcf

The minimum monthly bill is $3,750 for 20,000 Mcf. If the Railway Company receives less than the minimum monthly quantity due to failure on the part of the Gas Company, the rate paid for the gas used is set at 18 3/4¢ per Mcf. The Gas Company has the right to add any excise taxes hereafter imposed upon it, but in that event the Railway Company also has the right to cancel the contract. In order to cancel the contract because of the addition of excise taxes, the Railway Company is required to show that the cost of gas for fuel is greater than the costs of other fuels.

FINANCIAL RESULTS OF OPERATION

Earnings Statements

As compared with transit companies in general the earnings history of Twin City Rapid Transit Company has been good. Exhibit A sets forth condensed income accounts of the Company and its subsidiaries, consolidated, by years from 1920 to 1941, inclusive. These earnings and earnings for the years 1942 and 1943 are summarized in Table 3.

Table 3

(All Dollar Figures in Thousands)

Year	Total Operating Revenues	Operating Income after all Operating Expenses, Taxes and Depreciation: Amount	Operating Income after all Operating Expenses, Taxes and Depreciation: % of Revenue	Balance After All Income Deductions	Amounts Included in operating Deductions for: Taxes	Amounts Included in operating Deductions for: Depreciation
1920	$12,986	$2,030	15.6%	$ 999	$1,162	$1,013
1921	13,866	1,735	12.5	697	1,140	991
1922	13,773	2,606	18.9	1,565	1,252	993
1923	13,463	2,552	18.9	1,570	1,373	994
1924	12,705	2,253	17.7	1,269	1,266	994
1925	12,378	1,853	15.0	1,037	1,291	994
1926	13,945	2,394	17.2	1,437	1,229	1,231
1927	13,426	2,211	16.5	1,273	1,254	1,275
1928	13,005	1,956	15.0	763	1,099	1,297
1929	13,488	2,356	17.5	1,185	1,202	1,207
1930	12,324	2,254	18.3	1,089	375	1,222
1931	10,631	1,499	14.0	324	722	1,212
1932	9,117	1,225	13.4	41	666	1,106
1933	8,077	1,185	14.7	23*	694	1,094
1934	8,489	1,457	17.2	242	898	1,082
1935	8,637	1,666	19.3	472	901	1,061
1936	9,262	1,798	19.4	649	1,049	1,064
1937	9,079	1,462	16.1	460	1,193	1,063
1938	8,445	949	11.2	44*	1,046	1,077
1939	8,436	1,112	13.2	150	894	1,092
1940	8,405	1,025	12.2	112	854	1,126
1941	8,671	1,115	12.9	237	945	1,148
1942	11,440	1,886	16.5	1,071	1,847	1,192
1943	14,582	2,040	14.0	1,336	2,591	1,487

* Denotes Deficit

A more detailed statement of income for the years 1942 and 1943 is shown in Exhibit B. Table 4 showns by primary groups of account the revenues and expenses in dollar amounts, and in cents per vehicle mile separately for rail and motor bus operation for the years 1937 to 1943, inclusive. The details of passenger revenue by individual street car and motor bus lines are shown in Tables 1 and 2, and the comment with reference to motor bus line traffic, made in connection with Table 2, should be kept in mind in reading Table 4.

Table 4

TWIN CITY RAPID TRANSIT COMPANY

Seven Year Record of Unit Operating Costs
Cents per Vehicle Mile

	1937		1938		1939		1940		1941		1942		1943	
Rail Operation	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile	Amounts (000)	¢ per Vehicle Mile
Passenger Revenue	$ 8,283	36.5¢	$7,639	35.0¢	$ 7,499	35.7¢	$ 7,380	35.6¢	$ 7,480	36.6¢	$ 9,865	44.7¢	$12,391	49.6¢
Other Revenue	50	.2	54	.2	49	.2	30	.1	63	.3	78	.4	106	.4
Total Revenue	$ 8,333	36.7¢	$7,693	35.2¢	$ 7,548	35.9¢	$ 7,410	35.7¢	$ 7,543	36.9¢	$ 9,943	45.1¢	$12,497	50.0¢
Way & Structure	$ 386	1.7¢	$ 377	1.7¢	$ 394	1.9¢,	$ 440	2.1¢	$ 420	2.0¢	$ 463	2.1¢	$ 644	2.6¢
Equipment	495	2.2	504	2.3	476	2.3	470	2.3	483	2.4	568	2.6	689	2.7
Power	663	2.9	640	2.9	600	2.8	614	2.9	598	2.9	644	2.9	765	3.1
Operators Wages	1,921	8.5	2,026	9.3	1,943	9.2	1,939	9.3	2,003	9.8	2,417	11.0	3,204	12.8
Other Transportation	581	2.6	532	2.4	525	2.5	536	2.6	558	2.7	686	3.1	876	3.5
Traffic	42	.2	35	.2	35	.2	31	.2	32	.2	32	.2	31	.1
Injuries & Damages	255	1.1	180	.8	197	.9	177	.9	135	.7	217	1.0	289	1.2
Other General & Miscellaneous	458	2.0	473	2.2	454	2.2	437	2.1	421	2.1	471	2.1	654	2.6
Total	$ 4,801	21.2¢	$ 4,767	21.8¢	$ 4,624	22.0¢	$ 4,644	22.4¢	$ 4,650	22.8¢	$5,498	25.0¢	$ 7,152	28.6¢
Operating Ratio	57.7%		61.9%		61.3%		62.7%		61.7%		55.3%		57.3%	
Net from Operation	$ 3,532	15.5¢	$ 2,926	13.4¢	$ 2,924	13.9¢	$ 2,766	13.3¢	$ 2,893	14.1¢	$4,446	20.1¢	$ 5,345	21.4¢
Bus Operation														
Passenger Revenue	$ 695	18.9¢	$ 692	18.1¢	$ 826	18.3¢	$ 935	19.2¢	$ 1,064	21.0¢	$ 1,483	27.5¢	$ 1,744	27.3¢
Other Revenue	51	1.3	60	1.6	62	1.4	59	1.2	64	1.3	13	.2	341	5.3
Total Revenue	$ 746	20.2¢	$ 752	19.7¢	$ 888	19.7¢	$ 994	20.4¢	$ 1,128	22.3¢	$ 1,496	27.7¢	$ 2,085	32.6¢
Equipment	$ 116	3.1¢	115	3.0¢	$ 130	2.9¢	$ 137	2.8¢	$ 137	2.7¢	$ 178	3.3¢	$ 200	3.1¢
Garage	42	1.2	44	1.1	50	1.1	52	1.1	57	1.1	85	1.6	119	1.9
Power	81	2.2	75	2.0	83	1.8	89	1.8	104	2.1	124	2.3	161	2.5
Operators Wages	207	5.6	239	6.3	301	6.7	341	7.0	379	7.5	453	8.4	630	9.8
Other Transportation	50	1.4	49	1.3	45	1.0	48	1.0	47	.9	67	1.2	77	1.2
Traffic	4	.1	7	.2	3	.1	6	.1	6	.1	6	.1	6	.1
Injuries & Damages	20	.5	30	.8	59	1.3	40	.8	34	.7	49	.9	49	.8
Other General & Miscellaneous	41	1.1	44	1.1	42	.9	43	.9	49	1.0	54	1.0	70	1.1
Total	$ 561	15.2¢	$ 603	15.8¢	$ 713	15.8¢	$ 756	15.5¢	$ 813	16.1¢	$ 1,016	18.8¢	$ 1,312	20.5¢
Operating Ratio	75.2%		80.2%		80.3%		76.1%		72.1%		67.9%		63.0%	
Net from Operations	$ 185	5.0¢	$ 149	3.9¢	$ 175	3.9¢	$ 238	4.9¢	$ 315	6.2¢	$ 480	8.9¢	$ 773	12.1¢
Vehicle Miles - (000) - Cars	22,719	86%	21,861	85%	21,040	82%	20,773	81%	20,450	80%	22,074	80%	25,012	80%
Buses	3,680	14	3,817	15	4,501	18	4,861	19	5,060	20	5,390	20	6,399	20
Total	26,399	100%	25,678	100%	25,541	100%	25,634	100%	25,510	100%	27,464	100%	31,411	100%
Total Passengers per Vehicle Mile - Cars	6.6		6.3		6.4		6.5		6.6		7.4		8.7	
Buses	1.9		2.0		2.6		2.4		2.7		3.2		3.9	
Total	5.9		5.7		5.7		5.7		5.8		6.6		7.7	

Except for the item of operator's wages, unit costs have remained reasonably stable over the last seven years. The increases in certain items in 1942 and 1943 have been occasioned in part by war conditions (other than increases in basic wage rates) which have resulted in wage payments at overtime rates, in reduced effeciency of personnel, and in reduced operating efficiency of equipment because of shortages of maintenance materials and manpower. While basic wage levels are expected to remain high, these other factors contributing to present increased operating costs should disappear after the war.

Of the nine urban transportation companies operating in cities having a population of 500,000 to 1,000,000 and reporting comparable detailed operating results to the American Transit Association for the year 1943, Twin City Rapid Transit Company shows the lowest unit operating costs for all operating expenses other than operator's wages, as follows:

Unit Costs per Vehicle Mile (Excluding Depreciation and Taxes)

	Rail Service			Bus Service		
	Operators Wages	All Other Operating Expenses	Total Expenses	Operators Wages	All Other Operating Expenses	Total Expenses
Twin City Rapid Transit Co.	12.8¢	15.8¢	28.6¢	9.8¢	10.7¢	20.5¢
Cincinnati Street Rwy. Co.	12.9	19.3	32.2	8.8	13.6	22.4
Municipal Rwy. of San Francisco	22.5	18.9	41.4	9.6	14.3	23.9
Kansas City Public Serv.	9.4	20.6	30.0	8.3	11.2	19.5
Market Street Rwy.	20.8	21.0	41.8	12.3	20.8	33.1
New Orleans Public Serv.	16.3	21.4	37.7	8.2	12.4	20.6
International Rwy.(Buffalo)	11.6	27.8	39.4	9.5	17.9	27.4
Key System	12.7	31.2	43.9	10.4	25.4	35.8
Toronto Transportation Commission	9.8	20.2	30.0	(Included with rail service)		
Average	14.3	21.7	36.1	9.6	15.8	25.4

Operator's wages for vehicle mile are dependent, of course, on basic wage rates, which vary with geographical location, on the relative amount of one-man operation and on the average speed of operation.

Accidents and Claims

Below is a summary of the costs of injuries and damages, total operating revenues and injuries and damages costs in per cent of total operating revenues

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for the years 1938-1943, inclusive:

Year	Injuries & Damages (Accounts 92 & 1345)	Total Operating Revenue	Cost of Injuries & Damages in Per Cent of Total Operating Revenue
1938	$211,570	$8,444,714	2.50%
1939	255,833	8,436,146	3.03
1940	217,229	8,404,819	2.58
1941	169,225	8,671,525	1.95
1942	265,981	11,439,792	2.32
1943	338,629	14,582,121	2.32

The above costs for injuries and damages in per cent of total operating revenues have been low in comparison with other similar transit properties.

The number of accidents in 1943 have increased substantially over 1942, principally because of the increase in mileage, and the use of less experienced operators. A further comparison of the number of accidents, disbursements resulting from accidents, and the cost per accident for the years 1939-1943, inclusive, shows that the cost per accident in these years varied from approximately $14 to $20, as follows:

Year	Number of Accidents	Disbursements	Cost per Accident
1939	8,813	$166,448	$18.86
1940	9,515	135,631	14.24
1941	8,511	155,964	18.30
1942	8,932	151,272	16.97
1943	10,585	216,816	20.55

Monthly estimates are made of outstanding liabilities. These estimates have been running fairly close to the actual liability. As of December 31, 1943, the estimated liabilities for outstanding accident claims for the System were $143,052.

Depreciation

Since 1903 charges have been made to operating expenses for depreciation and corresponding credits made to the depreciation reserve accounts for railway property of the System.

The amount so charged for depreciation is based upon an analysis of the estimated life, values and ages of property and has averaged approximately $1,000,000 per year, ~~including $100,000 per year to cover rehabilitation of street cars.~~

These charges are made directly under Way & Structures, Equipment, and Power Accounts and under special accounts for Shops, Tools & Machinery, etc. The annual charges have been approved by the Railroad and Warehouse Commission at various times when rates of fares were under consideration.

The depreciation charges in operating expenses for railway property aggregate approximately 2 1/2% of the original cost of depreciable property. When the Company started to operate a substantial amount of bus equipment in 1925, depreciation on buses, garages, and shop equipment was calculated on an estimated life basis assigned to the various items. For 1943, the provision for depreciation of motor bus plant and equipment was $318,652, or 12.2% of the original cost. The annual rehabilitation cost of buses is also charged against the depreciation reserve.

A summary of the depreciation accruals credited to the depreciation reserve account and retirements charged against such reserve for the years 1929 to 1943, inclusive, is shown as follows:

	Depreciation Charged in Income Account and Credited to Depreciation Reserve	Charges against Depreciation Reserve for Property Retirements*
1929	$1,207,493	$917,330
1930	1,221,705	879,930
1931	1,211,876	852,417
1932	1,105,705	1,376,832
1933	1,094,253	547,429
1934	1,082,250	1,150,567
1935	1,061,119	451,555
1936	1,063,738	1,760,668
1937	1,062,742	511,040
1938	1,076,891	1,337,552
1939	1,092,131	930,563
1940	1,125,668	815,097
1941	1,147,699	820,250
1942	1,192,291	393,584
1943	1,487,454	502,629

* Includes charges for cost of Removal

The depreciation provision for 1943 includes, in addition to the regular accrual, an additional amount of $200,000 on account of increased use of street railway facilities.

The above summary indicates that during the period between 1929 and 1943 the charges against the depreciation reserve amounted to $13,247,444, classified by type of property as follows:

Way and Structures	$ 4,872,362
Equipment	5,074,391
Power	1,478,632
Shop Tools & Machinery	31,424
Total Street Railway	$11,456,809
Bus	1,790,635
Total System	$13,247,444

Taxes

The local tax assessors' "True and Full" value of the System's properties as of May 1, 1943 were: for real estate and buildings $3,049,110; for personal property $12,294,468; or a total of $15,343,578. Local property taxes are based on an assessment of 40% of estimated full value.

Taxes assignable to operation for the years 1938, 1941 and 1943, amounting to $2,590,629 in 1943 are detailed as follows:

Taxes Assignable to Operations

	1938	1941	1943
Personal Property	$ 667,989	$421,089	$ 474,716
Real Estate and Buildings	127,585	178,544	174,696
Money and Credits	1,630	1,560	-
	$ 797,204	$601,193	$ 649,412
Adjustments, etc.	258	112	(176)
	$ 797,462	$601,305	$ 649,236
City Car Licenses - Minn. & St. Paul	9,150	8,620	10,150
Bus & Auto Licenses and Permits	21,605	30,866	51,236
State Gasoline Tax (4¢/gal)	35,522	43,248	67,744
Gross Earnings Tax	8,273	7,533	5,352 (1)
State Bond Tax	2,324	1,824	1,447
State Income Tax	2,276	18,519	118,035
Federal Income Tax	-	108,929	1,453,049
Federal & State Unemployment Tax	124,740	56,326	88,309 (2)
Federal Pension Tax	38,908	43,328	69,768
Capital Stock Tax - Federal	6,375	28,398	80,531
Foreign Corporation	379	444	701
New Jersey Corporation Tax	4,375	-	-
	$1,051,388	$949,340	$2,595,558
Credit a/c Shop Charges to Mfg.	(4,008)	(2,999)	(3,768)
Credit a/c Real Estate Taxes Charges Miscellaneous Physical Property	(1,136)	(1,256)	(1,161)
Total Taxes Assignable to Operations	$1,046,244	$945,085	$2,590,629

(1) Inter City Bus Lines discontinued 7/1/42
(2) Rates 1938-3%; 1941-1.3%; 1943-1.3%

Included in 1943 Federal income tax of $1,453,048.85 is an amount of $450,770 for excess profits tax (less debt retirement credit of $50,086). This tax was computed on the Invested Capital method. For the year 1943, the Company's invested capital for this purpose was $25,263,726, resulting in an Excess Profits Credit of $1,665,823, exclusive of the specific credit of $5,000 and a carryover credit of $1,067,512.

For 1944, the Company estimates its invested capital at $25,974,480 and its excess profit credit of $1,498,724, exclusive of the specific credit of $10,000. No carryover credit will be available.

Capital Structure

As previously explained Twin City Rapid Transit Company is a holding company owning all of the stock and debt of its subsidiaries. Securities so owned as of December 31, 1943, and their present disposition are set forth in Table 6.

Capitalization of Twin City Rapid Transit Company at March 31, 1944 was as follows:

	Amount	%
Funded Debt		
1st Lien & Refund. 5½% "A" due 12/1/52	$10,801,500	
1st Lien & Refund. 5½% "B" due 12/1/52	505,700	
	$11,307,200	27.9%
Preferred Stock		
7% cumulative $100 par	$ 3,000,000	7.4%
Common Stock		
No par - 220,000 shares	$11,000,000	27.2%
Surplus		
Capital	$ 8,718,725	
Earned	6,468,919	
	$15,187,644	37.5%
Total	$40,494,844	100.0%

The First Lien and Refunding Mortgage bonds are secured by pledge with the Trustee of certain securities of subsidiary companies listed in Table 5, following. This table also shows that certain securities of subsidiaries, principally common stocks are held in escrow by Central Hanover Bank and Trust Company for the account of Twin City Rapid Transit Company. These bonds are callable on any interest payment date on 30 days' notice at 102. The bonds are admitted to unlisted trading privileges on the New York Curb Exchange.

The Company has regularly paid all interest as due on its funded debt, and has earned such interest every year except two since 1899. Funded debt outstanding reached a maximum in 1927 of $22,473,000 and since that date has been reduced to its present level of $11,307,200 (3/31/44) by bond purchases with surplus funds.

Debt reduction progress has been more rapid in recent years, as the following table indicates:

Date	Outstanding Bonds	Reduction in Outstanding Bonds
12-31-27	$22,473,000	--
12-31-36	21,200,000	$1,273,000
12-31-37	17,189,800	4,010,200 (a)
12-31-38	16,874,900	314,900
12-31-39	15,997,600	877,300
12-31-40	15,195,800	801,800
12-31-41	14,630,600	565,200
12-31-42	13,225,600	1,405,000
12-31-43	11,548,100	1,677,500
3-31-44	11,307,200	240,900
	Total	$11,165,800

(a) Includes payment of $3,708,000 of bonds at maturity.

The 7% cumulative preferred stock is non-callable. Full regular dividends have been paid since January, 1942. Dividends in arrears now amount to $49 per share or $1,470,000. [illegible].

The common stock of no par value is carried on the balance sheet at $50 per share. This stock was originally $100 par value but was changed to no par (and carrying value reduced to $50 per share) in December, 1932, creating $11,000,000 capital surplus of which $8,718,725 still remains on the balance sheet. The common stock paid dividends in all years from 1899 to 1931. Since then none has been paid.

The preferred and common stocks are listed on the New York, Montreal, and Toronto Stock Exchanges.

Table 5

Securities of Subsidiaries Owned by Twin City Rapid Transit Company

December 31, 1943

Minneapolis Street Railway Co.		
1st & Ref. 5 1/2's, due 12/1/52	$7,397,800.00	(a)
2nd Mtge. Note, 5%, due 3/31/42 (d)	2,350,000.00	(a)
Capital Stock, 50,000 shares, $100 par value per share.	5,000,000.00	(b)
The St. Paul Railway Co.		
Refunding Mtge. 5 1/2's - Series A due 12/1/52	3,642,200.00	(a)
Series B, due 12/1/52	547,100.00	(a)
Cable Consol. Mtge. Bonds, Extended 4 1/2's due 1/15/44 to 1/15/47	600,000.00	(b)
Second Mtge. Note, 5%, due 3/31/42 (d)	3,990,655.80	(a)
Capital Stock, 50,000 shares, $100 par value per share	5,000,000.00	(b)
The Minneapolis and St. Paul Suburban Railroad Co.		
1st Real Estate Mtge. note 4%, due 1/1/43 (d)	1,250,000.00	(a)
4% Note, due 1/1/43 (d)	1,000,000.00	(b)
Capital Stock 31,000 shares no par	100,000.00	(b)
Advances on open account	2,179,883.35	
The Transit Supply Co.		
Capital Stock, 53 shares, $100 par per share	5,300.00	(a)
The Minnetonka & White Bear Navigation Co.		
Capital Stock, 250 shares, $100 par per share	25,000.00	(b)
Advances on open account	386,277.06	
The Rapid Transit Real Estate Corporation		
Capital Stock, 150 shares, $100 par per share	15,000.00	(b)
Advances on open account	22,103.82	
Twin City Motor Bus Company		
Capital stock, 20,320 shares, $50 par per share	1,016,000.00	(c)

(a) Pledged with Chase National Bank, Trustee, as collateral to 1st Lien & Refunding Mtge. of Twin City Rapid Transit Company.

(b) Held in escrow by Central Hanover Bank & Trust Company for account of Twin City Rapid Transit Company.

(c) 20,315 shares pledged as in (a) and 5 shares held in escrow as in (b).

(d) These obligations have matured. The mortgages can be foreclosed any time within 15 years of maturity. The notes can be collected any time within 6 years of their maturity. As security for issues running beyond these time periods, these obligations should be renewed or extended with the time limitations indicated.

The common and preferred stocks paid dividends regularly from 1899 to 1931. The common stock has paid no dividends since 1931. The preferred stock, while now in arrears $49 per share in dividends, has paid regular dividends for the last two years, and is paying regular quarterly dividends currently.

Balance Sheet

Exhibit C shows consolidated balance sheets of the Company and its subsidiaries as of December 31, 1943, and March 31, 1944. A condensed balance sheet of the System as of March 31, 1944, is shown in Table 6. As of March 31, 1944, current assets aggregated $5,801,916, of which $5,013,127 was cash and United States Government securities. On the same date current liabilities were $2,887,100, indicating a net current position of $2,126,027.

Table 6

Condensed Consolidated Balance Sheet as of March 31, 1944

Assets	
Road and Equipment	$57,574,680
Miscellaneous Physical Property, Investments, etc.	9,888
1st Lien and Refunding Bonds Deposited for Secured Notes	6,300
Cash and U. S. Securities	5,013,127
Other Current Assets	788,789
Injuries and Damages Reserve Fund	331,875
Prepayments and Other Deferred Assets	432,613
Total	$64,157,272
Liabilities	
Common Stock, 220,000 shares, no par	$11,000,000
Preferred Stock, 7%, 30,000 shares, $100 par	3,000,000
1st Lien and Refunding 5 1/2 % bonds, due 1952	11,307,200
Secured Dividend Notes Not Presented	6,300
Current Liabilities	2,887,100
Depreciation Reserve	20,067,528
Other Reserves	355,469
Unredeemed Tokens, etc.	346,032
Capital Surplus	8,718,724
Earned Surplus	6,468,919
Total	$64,157,272

Road and Equipment Account

As shown in Exhibit C, Road and Equipment Account for Twin City Rapid Transit Company and its subsidiaries, consolidated, was stated at $57,485,689, at December 31, 1943. The amount applicable to each of the various companies making up this total, as shown on the balance sheets in the 1943 Audit Report, follows:

Twin City Rapid Transit Company	$ 2,400,000
Minneapolis Street Railway Company	29,607,751
The St. Paul City Railway Company	22,031,635
The Minneapolis & St. Paul Suburban Railroad Company	2,734,046
The Minnetonka & White Bear Navigation Company	5,759
Twin City Motor Bus Company	706,498
	$57,485,689

The amount of $2,400,000 carried on the books of Twin City Rapid Transit Company does not represent ownership of physical property, but rather is the excess of the cost to that Company over the underlying book value of its investment in Twin City Motor Bus Company.

The system companies do not maintain in their books a detail of road and equipment by the various accounts. However, as stated in the following section of this report entitled "Rate Base", the companies maintain memorandum accounts in detail on an "Original Cost Basis" and also on a "Railroad and Warehouse Commission Valuation Basis". A condensed summary of the road and equipment accounts of the four operating companies on the "Original Cost Basis" as of December 31, 1942, is shown in Table 7.

Table 7

	Original Cost Basis				
	Minneapolis	St. Paul	Suburban	Bus Co.	Total
Railway Property					
Way and Structures	$13,150,816	$ 9,579,932	$2,240,117		$24,970,865
Equipment	4,032,682	2,890,558	77,112		7,000,352
Power	4,963,520	664,252	118,798		5,746,570
Total Railway	$22,147,018	$13,134,742	$2,436,027		$37,717,787
Bus Property					
Misc. Capital				$126,161	$ 126,161
Shop and Garage Structures, including Land	324,018	189,018	-	15,844	528,880
Buses	968,977	286,215	-	592,113	1,847,305
Service, Shop and Garage Equipment	77,382	36,633	-	714	114,729
Total Bus	1,370,377	511,866	-	734,832	2,617,075
Undistributed Construction Accounts	1,526,252	943,668	115,836	43,428	2,629,184
Grand Total	$25,043,647	$14,590,276	$2,551,863	$778,260	$42,964,046

It will be noted from Table 7 that the "Original Cost" of the physical property of the four operating subsidiaries, excluding such items as working capital, material and supplies and going concern value which are included in the "Commission Valuation Basis" for rate purposes, and excluding the $2,400,000 item carried on the books of Twin City Rapid Transit Company, is $42,964,046 as of December 31, 1942. Net additions to property in 1943 amounted to $292,376, resulting in an "Original Cost" of property as of December 31, 1943, of $43,256,422, or some $13,200,000 less than the book value. Deducting the depreciation reserve of $19,688,084 at December 31, 1943, results in a depreciated "Original Cost" of property of $23,568,338.

A summary of additions and retirements by years for the period 1927-1943 for the system companies combined is shown in Table 8.

Table 8

	Additions	Retirements	Net Additions
Way and Structures	$ 5,287,249	$ 5,305,875	$ (18,626)
Rail Equipment	3,875,612	5,334,778	(1,461,166)
Power	2,143,807	1,376,450	767,357
General & Miscellaneous	712,322	142,900	570,422
Motor Bus Plant & Equipment	3,788,372	2,154,456	1,633,916
Total	$15,807,362	$14,314,459	$1,492,903

A summary of additions and retirements by major classes of property in each of the years 1927 to 1943 is shown in Exhibit D.

The depreciation reserve balance by major accounts as of December 31, 1943, was as follows:

Way and Structures	$ 9,678,764
Equipment	3,195,716
Power Plant	4,805,599
Shop Tools & Machinery	706,386
Buses & Bus Buildings & Equipment	1,301,620
	$19,688,085

REGULATION

General

An Act of the Legislature, Chapter 278, of the State of Minnesota, effective on April 14, 1921, related to the operation of street railways, and Minneapolis Street Railway Company, The St. Paul City Railway Company and The Minneapolis & St. Paul Suburban Railroad Company have been within the jurisdiction of the Minnesota Railroad and Warehouse Commission since that time. This Act provided that all street railway franchises then in effect became indeterminate in term and would continue in force until the individual cities should acquire the street railway properties.

Cities in Minnesota have the power and authority to acquire street railway properties within their confines by proceedings of eminent domain, purchase agreement, or on the basis of a fair value determined by the State Railroad and Warehouse Commission. Public acquisition of railway property must be approved by a majority of the electors of such city.

The exclusive right is vested with any city in the state to grant a license, permit or franchise for the construction and operation of street railway property, but no such grant may be made in any city where a street railway is then operating unless a certificate of convenience and necessity has first been obtained from the Commission. In addition, the city's rights include the authority to designate the streets upon which track shall be constructed, to require extensions of car lines, to prescribe reasonable requirements for standards of service, to exercise reasonable control over such service, including types of cars, service schedules, designation of stops, routes and speed of the street car operation. Further, it may enact regulations governing the lighting, heating and sanitary conditions of such equipment.

The Railroad and Warehouse Commission is granted the exclusive power and authority to fix rates of fare, which fares shall be sufficient to yield a reasonable return on the fair value of the street railway property. The Company can appeal any decision of the Commission to the District Courts for final adjudication. Street railway companies can issue stocks, bonds, notes or other evidences of indebtedness with a maturity of more than 12 months only with the approval of the Commission. Short term issues do not require this approval. The Commission is not permitted to approve the issuance of bonds, notes or evidence of indebtedness in excess of 85% of the fair, reasonable value of the property of the street railway. Street railway companies are required to furnish and file with the Commission annual reports and information with reference to income, expenditures, etc.

The operation of all motor buses comes within the jurisdiction of Chapter 185 of the Laws of Minnesota approved on April 13, 1925. The Railroad and Warehouse Commission is also the regulatory authority for motor vehicle operation on all streets, roads, highways including city, state and county public highways. No common carrier bus operation may be undertaken without first obtaining from the Commission a certificate of convenience and necessity. The Act provides that the Commission shall have complete supervision and regulation with respect to motor bus transportation companies. This authority includes the right to fix reasonable rates of fares, regulate service, provide standards of safety of operation, inspect motor vehicles and regulate speeds. All changes in schedules and tariffs must be approved by the Commission.

This Act does not provide for the operation of motor buses in violation of any charter provision or ordinance of the individual cities and further does not curtail the right of any city or village to regulate and control the routing, parking, speed or the safety of operation or the general police powers of such city or village over its highways.

Twin City Rapid Transit Company, being a holding company only, is not subject to jurisdiction of the Railroad and Warehouse Commission, but its subsidiaries which are engaged in street railway and bus transportation are subject to such jurisdiction.

Rate Base

The Railroad and Warehouse Commission as of January 1, 1925 established a valuation of the Twin City properties for rate-making purposes. The basic cost used by the Commission in its valuation of the Minneapolis and St. Paul properties was the 10-year average of prices from 1912 to 1920 on all inventories except paving and rolling stock. These were priced at the 1911 to 1915 price base. To this base cost, overhead charges were added. The depreciated value of the property as of January 1, 1925 was set as 87% of the basic cost plus overhead. In addition to the depreciated value of the physical property, the Commission included as part of the total valuation of the Company, working capital, value of land, going value and material and supplies.

Since 1925 additions to property have been recorded at cost. Retirements of property which existed prior to January 1, 1925 are taken at the amounts at which such property was originally included in the Commission's undepreciated value. Retirements of property acquired subsequent to January 1, 1925 are made at original cost.

During the year 1926, the Company adopted, with the informal approval of the Commission, a so-called "original cost" valuation for its Minneapolis and St. Paul properties. This valuation utilized the base costs of reproduction of the properties on a 1911 to 1915 price base for all items of equipment except rolling stock which were taken at original cost.

At that time an original cost valuation of the property was available, but not with a sufficient breakdown by inventory to make a practical record for retirements in subsequent years. It, therefore, was desirable that a valuation having a detailed inventory be adopted. To this base cost the percentage of structural and general overheads, land values, general stores, working capital and going concern valuations was added as approved by the Commission.

A comparison of the book value, original cost and Commission valuation of road and equipment account by companies, as of December 31, 1942, is shown as follows:

	As per Books	Original Cost Basis	Railroad and Warehouse Commission Basis(1)
Minneapolis Street Railway Co.	$29,368,851.10	$27,369,632.47	$31,321,445.16
The St. Paul City Railway Co.	21,870,161.42	16,024,029.56	18,121,498.93
The Minneapolis & St. Paul Suburban Railroad Co.	2,762,984.92	2,813,023.84	3,212,056.86
The Minnetonka & White Bear Navigation Co.	12,733.35	12,733.35	12,733.35
Twin City Motor Bus Co.	778,259.83	778,259.83	778,259.83
	$54,792,990.62	$46,997,679.05	$53,445,994.13
Twin City Rapid Transit Co.*	2,400,000.00	2,400,000.00	2,400,000.00
	$57,192,990.62	$49,397,679.05	$55,845,994.13

Road and Equipment as per Balance Sheet 12/31/42	$57,192,990.62
Miscellaneous Physical Property as per Balance Sheet 12/31/42 - The Rapid Transit Real Estate Corporation	5,681.29
	$57,198,671.91

* Intangibles - excess over underlying book value.

(1) Railroad & Warehouse Commission set values of Minneapolis Street Railway Company and The St. Paul City Railway Company property. The Minneapolis & St. Paul Suburban Railroad Company property set up on basis used by the Commission for the City Companies. The Twin City Motor Bus Company property on actual cost basis.

MANAGEMENT

The officers of the Twin City Rapid Transit Company and all of the individual subsidiary companies, are as follows:

D. J. Strouse	President
E. W. Decker	Vice President
J. L. Alexander	Vice President in Charge of Operations
B. G. Noah	Vice President
Sibbald MacDonald	Secretary and Comptroller
D. J. Bren	Assistant Secretary
Donald Goodrich	Assistant Treasurer

Mr. D. J. Strouse, President and directing head of the organization has been associated with the System over a long period of years. He was elected to office of President following the death of Mr. T. Julian McGill on October 10, 1936. Prior to this latter date, he was Comptroller during the period 1921 to 1936. Mr. Strouse is an able executive and well informed on matters of operation and finance.

In our opinion, the present officers and department heads are capable executives and are alert to the day-to-day problems and responsibilities encountered in the System's operation. The entire organization appeared to function smoothly.

The salaries of the officers are reasonable and commensurate with salaries paid to executives in similar operations.

The board of directors includes representatives of important business institutions in the Twin Cities as well as in Canada. The directors and their respective affiliations are shown below:

James A. Cathcart	Harris, Upham & Co., Chicago, Illinois
F. Coulter Deacon	F. H. Deacon & Co., Toronto, Ontario, Canada
E. W. Decker,	Investment Banker, Minneapolis, Minnesota
George A. Dobbie	President, Newlands & Co., Ltd. Galt, Ontario, Canada
Walter G. Seeger	President, Seeger Refrigerator Co., St. Paul
C. T. Jaffray	Chairman of Board, Minneapolis, St. Paul & Sault Ste. Marie Railway Co. Minneapolis, Minnesota
Alfred F. Pillsbury	Director, Pillsbury Flour Mills Co. Minneapolis, Minnesota
D. J. Strouse	President, Twin City Rapid Transit Co. Minneapolis, Minnesota
W. O. Washburn	Senior Member, W. O. Washburn & Sons St. Paul, Minnesota

PERSONNEL

General

The number of employees in 1943 has increased 13.3% over 1941, while total wages have increased 53.2%. The average annual wages during the same period have increased 35%.

The average number of employees by departments for the years 1938, 1941 and 1943 follows:

Department	Average Number of Employees 1938	 1941	 1943
Maintenance of Way	156	187	171
Mechanical	446	397	454
Power	146	154	149
Operating	1,405	1,279	1,482
Executive - Office - Stores	155	154	173
Bus Division - All Departments	222	294	359
Total	2,530	2,465	2,788

The table below shows total wages and the average annual wage per employee by departments for the years 1938, 1941 and 1943:

Table 9

Department	1938 Total Compensation	 Average Annual Wage	1941 Total Compensation	 Average Annual Wage	1943 Total Compensation	 Average Annual Wage
Maintenance of Way	$ 213,317	$1,367	$ 270,831	$1,448	$ 361,282	$2,113
Mechanical	671,609	1,506	711,547	1,792	1,039,632	2,290
Power	253,982	1,740	301,979	1,961	389,182	2,612
Operating	2,262,898	1,611	2,250,210	1,759	3,635,050	2,453
Executive - Offices - Stores	349,441	2,254	359,608	2,335	423,748	2,449
Bus Division - All Departments	372,736	1,679	543,223	1,848	932,031	2,596
Total	$4,123,983	$1,630	$4,437,398.	$1,800	$6,780,925*	$2,432

* Includes estimated Wage Adjustment retroactive to January 1, 1943.

Approximately 90% of the employees of the System maintain union membership. The average tenure of employment with the System of all employees, except seasonal track men, is approximately 19 years. Despite the comparatively long tenure of service of the employees only about 7% may be required to retire because of age within the next few years. The following tabulation shows the number of union employees who are under and over 60 years of age and their average length of service with the System:

	Length of Service (Years)					
	1-10	11-20	21-25	26-30	30 and over	Total all ages
Under 60 years of age	920	488	461	160	105	2,134
Over 60	6	23	87	69	187	372
Total Number of Employees	926	511	548	229	292	2,506

Approximately 37% have 10 years or less of service with the System. Considerable change in personnel has taken place during the past year, and of the 926 employees with less than 10 years' service over 60% have been with the System approximately one year.

The majority of the employees in the operating department are either motormen or conductors. An analysis of the ages of these employees indicates that the Company will not encounter any serious difficulties in providing continued employment even after the institution of a conversion program from street car to motor bus operation. Such a conversion program could be scheduled over a number of years during which time the older men who could not qualify for bus operation could be given priority on the assignment of remaining street car runs.

The System has recently adopted a pension plan.

Labor Contract

The Company has maintained an agreement with Local Division 1,005 of the Amalgamated Association of Street Electric Railways and Motor Coach Employees of America Since August, 1934 and recognizes the union as the sole collective bargaining representative for its members in all groups and departments of the Company.

A summary of the salient features of the present working agreement follows:

1. Employees are required to work only 6 days in any week.
2. Time and one-half is paid in excess of 44 hours in one week.
3. No run shall be longer than 9 1/4 hours platform time.
4. Extra operators are paid time and one-half in excess of 9 1/4 hours in a single day.
5. All regular extra men are guaranteed a nimimum of 6 hours' work per day.
6. Extra men are paid time and one-half for continuous work after a 13 hour spread.
7. Maximum allowed vacations shall be 12 working days with pay.

The rates of pay per hour for trainmen and bus drivers effective during 1943 were as follows:

	Motormen & Conductors 2-Man cars*	Bus Drivers and One-Man Car Operators*
1st year	76¢	85¢
2nd year	79¢	88¢
3rd year	82¢	92¢

* Exclusive of 3¢ per hour retroactive increase granted and paid early in 1944 for full year 1943.

In 1943 the union's request for a 25¢ per hour increase was rejected by the Company and was submitted for arbitration in accordance with the contract.

The arbitration award made recently, granted, in addition to the above rates of pay, a retroactive increase of 3¢ per hour effective between January 1 and December 31, 1943. This same hourly increase was allowed to employees of car houses, general shops, power department, track department, garage and storage departments. Similar increases were granted for the monthly and weekly employees. No major change in general working conditions was made.

The trend in hourly rates of wages for platform employees of the System for the years 1920 to 1944, inclusive, is shown in Table 10:

Table 10

Maximum Hourly Rate of Wages of Platform Employees

Effective Date	Two-Man	One-Man
July 20, 1920	60¢	60¢
January 1, 1922	53	53
November 16, 1925	55	60
May 1, 1933	50	55
January 1, 1934	53	53
August 1, 1934 (a)	56	60*
August 1, 1935	58	63*
November 1, 1937 6	62	67*
November 1, 1937	65	71*
November 1, 1938	65	72
May 1, 1939	65	73
August 1, 1939	65	75
January 1, 1941	67	77
June 1, 1941	70	80
January 1, 1942	77	87
January 1, 1943 (b)	85	95
January 1, 1944	85**	95**

** Pending results of negotiations.

* Plus bonus of 3.3% of wages. Bonus discontinued on 7/19/38

(a) First union contract.

(b) Including retroactive increase of 3¢ per hour.

Employees' Mutual Benefit Association

The employees and the System have jointly maintained a mutual benefit association for a number of years. Both the employees and the System have contributed towards the expenses of this Association for the payment of sickness and accident claims, hospital, death and other benefits. Until 1941 the System contributed an amount equal to the dues paid by the members of this Association. Because of the increased cost of operation of the Association, the Company in 1941 stated that in the event that the dues of the members were increased, it would not in the future make any further increases in its contributions. The System pays, in addition, the expenses of the general director, the medical director (or for medical consultations), nurses, office supplies and expenses. The System's cost for the year ended June 31, 1944, was $29,182 for contributions to the Association, and $28,361 for the expenses of the Association, or a total cost of $57,543.

In addition, the System pays the cost of life insurance for its employees, under a group insurance policy with the Travelers Insurance Company. The cost to the System for this insurance amounted to $69,121 in 1942 and $71,235 in 1943. At December 31, 1943, the System had a reserve of $56,063 created by credits from the insurance company on past premiums, to be used in the event of higher costs in future years.

INSURANCE

The various types of insurance carried by the System may be briefly summarized as follows:

Railway Property

Fire Insurance	
Buildings and Contents	$5,201,000
Rolling Stock	$7,580,000
Autos	$11,950
Trucks	$41,523
Windstorm on all Buildings	$2,000,000
Riot and Civil Commotion on Rolling Stock, Buildings and Equipment - $1,000 Deductible	
Rolling Stock	$2,000,000
Buildings and Equipment	$1,750,000
Boiler Explosion Insurance	
Power Plant Boilers	$2,000,000
Miscellaneous Equipment	$20,000 to $50,000
Use and Occupancy on Boilers at Power House - Starting on the 35th day $5,000 per day, maximum	$1,750,000
Public Liability on Turbine Breakdown - $10,000 Deductible	
Accident Limit	$2,000,000
Use and Occupancy on Turbine same as Boilers, Maximum	$1,750,000
Use and Occupancy on account of Fire and Explosion to Power Plant $500,000 in addition to the above	
War Risk Insurance on Power House only	$4,500,000

Motor Bus Property

Fire Insurance	
Buildings and Contents	$320,000
Buses	$1,828,400
Windstorm covered under Railway Policy	
Riot and Civil Commotion covered under Railway Policy	
Catastrophe covering loss of revenue from Buses	$405,000
Public Liability on chartered Buses only	Over $10,000 to $100,000

The System also carries burglary, holdup, fidelity bond insurance, etc.

The System carries its own insurance on public liability for both bus and railway operation, with protection for excess losses(other than that with respect to chartered bus operation as shown above) in amounts of $25,000 to $750,000. It is our opinion that the System's property is amply protected by the various types and amounts of insurance, but we suggest that consideration be given to the purchase of excess public liability insurance.

OWNERSHIP OF COMMON AND PREFERRED STOCK

The 20 largest holders of common and preferred stocks of Twin City Rapid Transit Company as of March 1, 1944 are as follows:

	Common	Preferred
Merrill, Lynch, Pierce, Fenner & Beane 70 Pine Street, New York, N. Y.	6,491	390
Goodbody & Co., 115 Broadway, New York, N. Y.	5,854	65
Leon J. Lambert, c/o Chase National Bank 11 Broad Street, New York, N. Y.	5,150	750
Sulzbacher Granger & Co., 111 Broadway, New York, N. Y.	4,450	410
J. S. Bache & Co., 36 Wall Street, New York, N. Y.	4,400	630
Thomson & McKinnon 11 Wall Street, New York, N. Y.	4,361	453
Reuben Weinstein 81 Crosby Street, New York, N. Y.	3,300	100
Fahnestock & Co., 65 Broadway, New York, N. Y.	3,265	50
Harris, Upham & Co., 14 Wall Street, New York, N. Y.	2,506	115
Sigler & Co., c/o Central Hanover Bank & Trust Co. 70 Broadway, New York, N. Y.	2,352	20
E. F. Hutton & Co. 61 Broadway, New York, N. Y.	2,100	210
Paine, Webber, Jackson & Curtis 25 Broad Street, New York, N. Y.	2,070	180
Ralph P. Manny 55 Apawamis Avenue, Rye, N. Y.	2,000	-
Eastman, Dillon & Co. 15 Broad Street, New York, N. Y.	1,840	340
Hirsch, Lilienthal & Co. 25 Broad Street, New York 4, N. Y.	1,700	20
Carl M. Loeb Rhoades & Co. 61 Broadway, New York, N. Y.	1,169	425
Charles J. King Route 9, Box 1098, Sacramento, California	1,600	-
Charles A. Huff & Mrs. Mary E. Huff as Jt. Ten. with Rt. of Survship and not as Ten. in Common 5210 Grandview Drive, Indianapolis, Ind.	1,500	200
Ira Haupt & Co. 111 Broadway, New York, N. Y.	1,425	190
John F. Fitzpatrick 505 Summit Avenue, St. Paul, Minnesota	550	1,500
Total of above 20 holders	58,083 shs.	6,048 shs.
Total stock outstanding	220,000 shs.	30,000 shs.

The largest individual holding of the outstanding common or preferred stock of Twin City Rapid Transit Company amounts to less than 3% of the total.

POSTWAR ESTIMATES OF OPERATION

Company's Estimate

The Company has prepared a detailed analysis of postwar revenues and expenses for the years 1944 to 1950, inclusive, which with actual figures for 1943 is shown in detail in Exhibit E and is summarized below:

Year	Estimated Operating Revenue	Estimated Operating Expenses, Depreciation and General Taxes		Estimated Net from Operation Before Federal Income Taxes and Interest
	(000)	(000)	Operating Ratio	(000)
1943	$14,582(a)	$11,089(a)	76.1%	$3,493(a)
1944	14,582	10,831	74.3	3,751
1945	14,582	10,831	74.3	3,751
1946	13,124	10,338	78.8	2,786
1947	12,468	9,870	79.1	2,598
1948	11,844	9,870	83.3	1,976
1949	11,252	9,455	84.0	1,827
1950	11,621	9,002	77.5	2,619

(a) Actual

The Company believes that if revenues decrease in accordance with its estimate it would have justification for securing an increase in the rate of fare in 1950, and the estimate reflects such an increase.

It may be possible for the System to realize the estimated operating revenues and expenses as indicated above. Several national economic studies have indicated that the Twin Cities district is reasonably assured of maintaining its business activity at a comparatively high level during the postwar period. Manufacturing and commercial trade in that area can be considered primarily of a non-war type, and, therefore, should not be subjected to drastic curtailment at the termination of the war. Thus, it may be possible that a gradual rather than an accelerated decline in revenues during the next several years may occur.

Alternative Estimate

We have also prepared an estimate of postwar operating results. Our estimate is substantially less than the estimate prepared by the Company. We have given primary consideration to the probable extensive automobile competition during the postwar period because of the pre-war and existing high automobile registration in the area, and in that connection have analyzed the effect on traffic of the curtailment of the use of automobiles in the district. We find that there has been a decrease of about 50% in automobile passenger traffic into the downtown business areas of Minneapolis and St. Paul between 1941 and 1943 based on traffic counts. Likewise, these traffic counts also show as between 1941 and 1943 an increase of from 50% to 60% in street car and bus passengers entering the areas.

The effect on operating revenues in 1943 of a decrease of approximately 50% in automobile riding into the loop areas and the increase in riding caused by war activity resulted in a 70% increase over the 1937-1941 average.

The return of the freer use of the automobile will result in reduced revenues from transit operation during the postwar period. The extent of this reduction will depend on many postwar economic factors, particularly with respect to the time required to reach a normal status of supply and demand of automobiles. Many authorities indicate that a minimum of six years will be required to reach the 1941 level of average age and number of automobile registrations. However, it is our judgment that the Twin City Rapid Transit System will be able to maintain our estimated postwar revenue of approximately $9,500,000. We also assume that the present efficient management will continue and that a reasonable modernization program will be effected.

Our estimate of the postwar volume of traffic and revenues is based upon the following analysis:

Derivation of Postwar Volume of Traffic and Revenues

	Year 1940	Year 1941	Year 1942	Year 1943	Estimated Stabilized Postwar
Population Served	845,281			860,000	900,000
Annual revenue rides per capita	124	124	147	201	130
Revenue Passengers-per year	105,314,000	105,942,000	129,925,000	173,280,000	117,000,000
Total Passengers-per year	145,672,000	147,799,000	179,779,000	242,732,000	163,800,000
Ratio of total Passengers to Revenue Passengers	138.3%	139.7%	138.3%	139.7%	140.0%
Passenger Revenue	$8,315,000	$8,544,000	$11,348,000	$14,135,000	$9,360,000
Average Fare	7.89¢	8.07¢(a)	8.73¢(a)	8.17¢(a)	8.00¢
Other Operating Revenue	$89,000	$127,000	$91,000	$447,000(b)	$140,000
Total Revenue	$8,404,000	$8,671,000	$11,439,000	$14,582,000	$9,500,000

(a) From November 7, 1941 to April 11, 1943 token fare rate was 6 for 50¢. Prior to and subsequent to these dates token fare rate was 6 for 45¢.
(b) Includes revenue from certain contract service.

The estimated postwar revenues of $9,500,000 can be compared to revenues of other basic years as follows:

A reduction of 35% as compared to 1943.

An increase of 2.8% over the year 1932.

An increase of 7.7% over the average of the years 1932 to 1936, inclusive.

An increase of 10.1% over the average of the years 1937 to 1941, inclusive.

In our estimate of future operating expenses, we have assumed that the following conditions will prevail:

1. The maintenance of approximately the 1944 wage scale, minus the overtime and bonus provision.
2. The continuation of the present efficient management and supervision.
3. The elimination of all or practically all remaining 2-man street car operation.

4. The carrying out of a reasonable program of conversion of street cars to motor buses or to some other type of equally efficient and flexible vehicle.

5. The expenditure of a major portion of the cash available from depreciation accruals on such a conversion program.

6. The use of large capacity substitute vehicles in the conversion of the heavier car lines.

7. The maintenance of the present fare structure.

Our estimated postwar income account, after the transition years and with the conversion program largely completed, is as follows:

		% of Revenues	
Operating revenues			$9,500,000
Operating expenses	$6,310,000	66.4%	$3,190.000
Taxes, except Federal Income	900,000	9.5	
Total	7,210,000	75.9	
Depreciation accrual	1,100,000	11.6	8,310,000
Net available for debt service and Federal Income Taxes		87.5%	$1,190,000

If during the next few years the System converts some of its street car operations to motor bus operation, it may be possible to realize a substantial saving in Federal income taxes by the abandonment and writing off of track and street cars.

The operating ratio after general taxes indicated in the above postwar estimate is 75.9% before and 87.5% after depreciation, which latter ratio compares with 1940-1943, inclusive, as follows:

	Operating Ratio after Depreciation but before Federal Income Taxes
1940	87.3%
1941	85.9
1942	76.1
1943	76.1
Postwar	87.5%

POSTWAR CAPITAL EXPENDITURES

The Company is faced in the near future with the problem of replacing approximately 15,000 kw of its generating capacity at a cost of $650,000 in order to insure continuity of its power supply as outlined in the section on power supply.

The Company contemplates that new passenger equipment will be purchased in the future from available funds, and the management has indicated that because of possible future developments in motor bus design the type of equipment to be purchased will be motor buses rather than street cars or trolley coach units.

We have made an estimate of the major capital expenditures that may be required over a 10-year period for the modernization of the System and to enable it to continue to operate efficiently. These estimated expenditures are as follows:

15,000 kw generator	$ 650,000
Motor buses for conversions and replacements, approximately 525 units	5,000,000
Garage facilities	750,000
Miscellaneous equipment	250,000
Approximate 10-year capital expenditure requirement	$6,650,000
Or average annual requirement of	$665,000

During the year 1943, the System produced about $2,000,000 from net income and unexpended depreciation accruals. It is believed that operations for the year 1944 should result in making approximately a like amount of cash available for capital expenditures.

In the transition years between war traffic and postwar traffic, the Company should be able to accumulate a substantial amount of cash which will be available for modernization and other postwar expenditures.

AVERY® PV119

Exhibit A

TWIN CITY RAPID TRANSIT COMPANY AND SUBSIDIARIES
COMPARATIVE INCOME STATEMENT FOR THE CALENDAR YEARS 1920 TO 1930

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Operating Income											
Railway Operating Revenue	$12,986,406.10	13,865,581.53	13,772,647.13	13,463,111.86	12,704,569.67	12,378,352.44	13,945,266.66	13,425,643.68	13,005,353.31	13,487,976.03	12,324,321.95
Railway Operating Expenses (including Depreciation)	9,794,834.28	10,990,535.20	9,914,324.44	9,537,841.25	9,185,927.79	9,234,088.67	10,322,488.42	9,959,972.22	9,950,551.71	9,930,433.87	9,195,297.93
Net Revenue - Railway Operations	3,191,571.82	2,875,046.33	3,858,322.69	3,925,270.61	3,518,641.88	3,144,263.77	3,622,778.24	3,465,671.46	3,054,801.60	3,557,542.16	3,129,024.02
Taxes Assignable to Railway Operations	1,161,506.47	1,139,637.20	1,251,924.53	1,373,068.65	1,265,982.42	1,291,137.92	1,229,115.29	1,254,792.99	1,098,849.45	1,201,923.18	875,166.79
Operating Income	2,030,065.35	1,735,409.13	2,606,398.16	2,552,201.96	2,252,659.46	1,853,125.85	2,393,662.95	2,210,878.47	1,955,952.15	2,355,618,98	2,253,857.23
Non-Operating Income											
Income Miscellaheous Physical Property	-	-	-	22,928.50	10,355.06	61,918.88	-	7,128.86	9,638.44	4,833.97	3,813.25
Income from Unfunded Securities & Accts.	80,995.83	51,482.65	63,445.69	86,920.72	53,312.41	73,045.63	50,199.54	49,192.92	82,481.44	102,775.55	118,724.01
Income from Trust Fund	-	-	-	-	-	-	-	-	-	-	8,416.86
Miscellaneous Income	3,336.13	4,249.94	5,795.86	7,085.99	37,394.24	49,666.97	6,298.72	7,608.09	7,161.57	14,367.57	7,511.23
Total Non-Operating Income	84,331,96	55,732.59	69,241.55	116,935.21	101,061.71	184,631.48	56,498.26	63,929.87	99,281.45	121,977.09	138,465.35
Gross Income	2,114,397.31	1,791,141.72	2,675,639.71	2,669,137.17	2,353,721.17	2,037,757.33	2,450,161.21	2,274,808.34	2,055,233,60	2,477,596.07	2,392,322.58
Deductions from Gross Income											
Rents for Leased Roads	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,670.00	3,804.00
Interest on Funded Debt	1,080,684.03	1,073,229.02	1,091,255.05	1,087,625.64	1,072,968.19	988,954.52	995,520.30	991,601.73	1,205,861.16	1,207,610.33	1,208,415.02
Interest on Secured Dividend Notes	-	-	-	-	-	-	-	-	-	-	10,542.00
Miscellaneous Debits	10,349.36	11,500.30	8,838.06	8,443.54	8,744.17	8,375.28	7,311.01	7,040.38	12,782.46	10,437.08	9,806.58
Interest on Unfunded Debt	-	-	-	-	-	-	5,887.66	-565.47	-	-	-
Amortization of Disc. & Exp. on Funded Debt	-	-	-	-	-	-	-	-	-	70,969.30	70,969.30
Loss Miscellaneous Physical Property	21,264.33	6,107.58	7,345.13	-	-	-	1,636.83	-	-	-	-
Total Deductions from Gross Income	1,115,297.72	1,093,836.90	1,110,438.24	1,099,069.18	1,084,712.36	1,000,329.80	1,013,355.80	1,002,207.58	1,221,643.62	1,292,686.71	1,303,536.90
Net Income to Profit and Loss	$ 999,099.59	697,304.82	1,565,201.47	1,570,067.99	1,269,008.81	1,037,427.53	1,436,805.41	1,272,600.76	833,589.98	1,184,909.36	1,088,785.68
Amortization of Discount & Expense on Funded Debt									70,969.30		
									762,620.68		

Source: Accounting Department - Annual Reports

TWIN CITY RAPID TRANSIT COMPANY AND SUBSIDIARIES
COMPARATIVE INCOME STATEMENT FOR THE CALENDAR YEARS 1931 TO 1941

	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
Operating Income											
Operating Revenue	$10,631,120.95	9,117,358.92	8,076,531.76	8,489,413.37	8,636,907.33	9,262,349.05	9,078,505.40	8,444,713.57	8,436,145.84	8,404,819.31	8,671,525.11
Operating Expenses (including Depreciation)	8,410,096.92	7,225,328.12	6,197,326.07	6,133,759.24	6,069,545.80	6,415,052.65	6,423,707.88	6,449,157.05	6,430,601.10	6,525,705.32	6,611,524.06
Net Revenue (Railway and Bus)	2,221,024.03	1,892,030.80	1,879,205.69	2,355,654.13	2,567,361.53	2,847,296.40	2,654,797.52	1,995,556.52	2,005,544.74	1,879,113.99	2,060,001.05
Taxes Assignable to Operations	721,853.11	666,898.71	693,883.39	898,332.05	901,311.26	1,049,014.22	1,192,771.00	1,046,244.28	893,585.56	854,189.82	945,084.99
Operating Income	1,499,170.92	1,225,132.09	1,185,322.30	1,457,322.08	1,666,050.27	1,798,282.18	1,462,026.52	949,312.24	1,111,959.18	1,024,924.17	1,114,916.06
Non-Operating Income											
Miscellaneous Rent Income	-	-	-	-	-	-	119.66	-	-	-	-
Income Miscellaneous Physical Property	2,545.78	-	892.52	-	-	2,145.53	947.90	-	-	-	-
Income from Unfunded Securities & Accts.	89,396.40	75,323.97	47,623.13	30,829.14	32,868.71	45,079.39	25,997.49	16,673.84	13,651.98	11,709.09	13,723.95
Income from Trust Fund	40,156.78	43,532.78	45,277.75	50,797.01	48,328.39	1,827.17	-	-	-	-	-
Miscellaneous Income	5,925.18	5,971.07	2,837.02	1,610.99	2,952.33	2,539.77	2,016.08	1,434.75	1,632.84	1,805.17	1,520.80
Total Non-Operating Income	138,024.14	124,827.82	96,630.42	83,237.14	84,149.43	51,591.86	29,081.13	18,108.59	15,284.82	13,514.26	15,244.75
Gross Income	1,637,195.06	1,349,959.91	1,281,952.72	1,540,559.22	1,750,199.70	1,849,874.04	1,491,107.65	967,420.83	1,127,244.00	1,038,438.43	1,130,160.81
Deductions from Gross Income											
Rents for Leased Roads	3,804.00	3,531.66	2,784.22	804.00	182.50	182.50	182.50	182.50	193.60	202.56	202.50
Miscellaneous Rents	-	-	-	-	557.25	547.55	2,858.83	-	-	-	-
Interest on Funded Debt	1,185,279.73	1,174,445.54	1,170,610.51	1,166,253.93	1,149,175.36	1,115,250.86	953,057.04	928,187.87	898,200.36	849,727.96	815,072.63
Interest on Secured Dividend Notes	43,460.00	45,764.00	46,318.00	46,691.50	45,292.50	1,534.50	-	-	-	-	-
Miscellaneous Debits	9,522.28	11,647.68	11,803.62	13,592.50	12,159.72	16,287.00	9,024.05	16,825.34	16,409.79	16,423.41	19,608.37
Amortization of Discount & Expense on Funded Debt	70,630.33	72,435.86	73,522.05	70,382.02	69,830.23	66,584.74	66,023.96	64,882.54	62,746.46	59,242.04	56,777.32
Loss Miscellaneous Physical Property	-	1,291.28	-	1,111.52	926.34	-	-	1,184.77	141.57	1,259.70	1,198.25
Total Deductions from Gross Income	1,312,696.34	1,309,116.02	1,305,038.40	1,298,835.47	1,278,123.90	1,200,387.15	1,031,146.38	1,011,263.02	977,691.78	926,855.67	892,859.07
Net Income to Profit & Loss	$ 324,498.72	40,843.89	(23,085.68)	241,723.75	472,075.80	649,486.89	459,961.27	(43,842.19)	149,552.22	111,582.76	237,301.74

() Denotes Loss.

Exhibit B

TWIN CITY RAPID TRANSIT COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED INCOME STATEMENTS FOR THE CALENDAR YEARS 1942 AND 1943

	1942	1943
Passenger Revenue		
Street Cars	$ 9,864,864	$12,390,770
Buses	1,335,207	1,744,265
Total Passenger Revenue	11,200,071	14,135,035
Other Transportation Revenue	152,402	333,187
Revenue from Other Operations	87,319	113,899
Total Operating Revenue	11,439,792	14,582,121
Operating Expenses (including Depreciation)		
Way and Structures	1,040,714	1,341,509
Equipment	851,408	1,030,973
Power	752,811	894,510
Conducting Transportation	3,103,380	4,080,112
Traffic	31,998	30,963
General and Miscellaneous	700,140	949,547
Transportation for Investment - credit	(12,753)	(6,907)
Motor Bus Expense	1,239,272	1,631,064
Total Operating Expenses	7,706,970	9,951,771
Net Operating Revenue	3,732,822	4,630,350
Taxes (including Federal Income 1942 - $842,133; 1943 - $1,453,049)	1,847,083	2,590,629
Operating Income	1,885,739	2,039,721
Other Income	20,313	37,674
Gross Income	1,906,052	2,077,395
Deductions		
Interest on Funded Debt	764,763	678,348
Amortization of Debt Discount and Expense	53,512	47,428
Other Deductions	16,740	15,481
Total Deductions	835,015	741,257
Net Income	$ 1,071,037	$ 1,336,138
Depreciation included in Operating Expenses	$ 1,192,291	$ 1,487,454

Exhibit C

TWIN CITY RAPID TRANSIT COMPANY AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEETS - AS OF DECEMBER 31, 1943 AND MARCH 31, 1944

Assets	December 31, 1943	March 31, 1944
Road and Equipment (including intangibles)	$57,485,689	$57,574,680
Miscellaneous Physical Property	5,359	5,359
Deposits in lieu of Mortgaged Property Sold or Destroyed	1,027	1,027
First Lien & Refunding Series B Bonds Deposited for Secured Notes (contra)	6,300	6,300
Miscellaneous Investments	3,502	3,502
Current Assets		
Cash	1,829,997)	2,088,127
U. S. Treasury Tax Notes	595,600)	
Other U. S. Government Securities	2,725,000	2,925,000
Receivables - notes, accounts, interest, etc.	48,050	25,722
Materials and supplies	775,798	763,067
Total Current Assets	5,974,445	5,801,916
Injuries and Damages Reserve Fund	337,417	331,875
Prepayments and Other Deferred Assets	55,838	63,437
Unamortised Debt Discount and Expense	388,207	369,176
Total	$64,257,784	$64,157,272

Liabilities	December 31, 1943	March 31, 1944
Capital Stock		
Common, 220,000 shares (no par value)	$11,000,000	$11,000,000
Preferred, 7% Cumulative, 30,000 shares ($100 par value)	3,000,000	3,000,000
Total Capital Stock	14,000,000	14,000,000
Funded Debt		
First Lien & Refunding 5 1/2% Bonds, due Dec. 1, 1952		
Series A	11,040,000	10,801,500
Series B	508,100	505,700
Total Funded Debt	11,548,100	11,307,200
Secured Dividend Notes Not Presented (contra)	6,300	6,300
Current Liabilities		
Accounts Payable	785,936(a)	286,192
Accrued interest	63,408	203,822
Accrued taxes	2,540,978	2,397,086
Total Current Liabilities	3,390,322	2,887,100
Reserves		
Depreciation	19,688,084	20,067,528
Injuries and Damages	337,417	331,875
Other Operating Reserves	-	23,594
Total Reserves	20,025,501	20,422,997
Unredeemed Tokens, etc.	309,745	346,032
Capital Surplus	8,718,724	8,718,724
Earned Surplus	6,259,092	6,468,919
Total	$64,257,784	$64,157,272

At December 31, 1943 and at March 31, 1944, dividend arrears on the Preferred Stock amounted to $49.00 per share, or a total of $1,470,000.

(a) Includes $725,225 for estimated retroactive wage adjustment.

Exhibit D

TWIN CITY RAPID TRANSIT COMPANY AND SUBSIDIARY COMPANIES
SUMMARY OF ADDITIONS AND RETIREMENTS
BY YEARS, 1927 TO 1943, INCLUSIVE

Year	Way and Structures	Rail Equipment	Power	General and Miscel- laneous	Motor Bus Plant & Equipment	Total
			Additions			
1927	$ 492,183	$ 363,725	$ 40,184	$ 36,116	$ 270,908	$ 1,203,116
1928	680,802	385,959	106,008	38,633	303,242	1,514,644
1929	717,318	202,001	83,993	45,031	241,573	1,289,916
1930	661,717	194,127	115,586	65,940	254,444	1,291,814
1931	602,189	176,683	187,155	75,507	135,932	1,177,466
1932	367,545	270,257	637,045	59,453	80,301	1,414,601
1933	186,061	276,467	65,573	68,184	78,643	674,928
1934	140,819	220,373	54,898	39,464	122,029	577,583
1935	149,214	273,098	35,673	34,461	78,917	571,363
1936	184,700	254,476	69,980	31,620	100,617	641,393
1937	218,278	240,213	53,191	24,104	113,366	649,152
1938	90,607	201,489	62,621	33,181	208,143	596,041
1939	222,584	154,320	51,539	32,382	150,261	611,086
1940	159,289	154,044	63,113	34,228	281,346	692,020
1941	179,315	156,075	270,222	13,291	418,042	1,036,945
1942	176,358	172,138	120,241	37,758	571,768	1,078,263
1943	58,270	180,167	126,785	42,969	378,840	787,031
Total	$5,287,249	$3,875,612	$2,143,807	$712,322	$3,788,372	$15,807,362
			Retirements			
1927	$ 165,044	$ 148,548	$ 15,251	$ -	$ 149,750	$ 478,593
1928	427,333	224,676	44,258	-	217,352	913,619
1929	484,984	165,121	50,766	-	192,461	893,332
1930	491,891	163,996	63,057	7,570	145,526	872,040
1931	418,210	137,977	135,817	-	141,071	833,075
1932	344,736	173,705	273,021	150	108,560	900,172
1933	210,966	184,801	34,686	-	106,154	536,607
1934	135,827	811,271	40,892	-	151,539	1,139,529
1935	214,123	186,741	23,899	-	19,610	444,373
1936	255,030	1,282,004	72,027	31,190	144,210	1,784,461
1937	274,707	167,557	19,779	-	37,826	499,869
1938	443,589	611,628	243,531	103,990	130,678	1,533,416
1939	448,908	352,102	45,384	-	59,917	906,311
1940	537,393	160,058	50,634	-	158,995	907,080
1941	205,050	222,016	158,174	-	213,382	798,622
1942	156,228	164,084	14,561	-	43,832	378,705
1943	91,856	178,493	90,713	-	133,593	494,655
Total	$5,305,875	$5,334,778	$1,376,450	$142,900	$2,154,456	$14,314,459
Net	$ (18,626)	($1,461,166)	$ 767,357	$570,422	$1,633,916	$ 1,492,903

( ) Excess of retirements over additions.

TWIN CITY RAPID TRANSIT COMPANY
AND SUBSIDIARIES

Exhibit E

CONSOLIDATED INCOME ESTIMATES 1944 TO 1950 INCLUSIVE

	1943 Actual	1944 Estimated	1945 Estimated	1946 Estimated	1947 Estimated	1948 Estimated	1949 Estimated	1950 Estimated
Passenger Revenue	$14,135,034.83	$14,135,035	$14,135,035	$12,721,531	$12,085,454	$11,481,181	$10,907,122	$11,310,835
Other Transportation Revenue	333,187.57	333,187	333,187	299,869	284,875	270,631	257,099	231,390
Revenue from Other Operations	113,898.71	113,899	113,899	102,509	97,384	92,515	87,889	79,100
Total Operating Revenue	14,582,121.11	14,582,121	14,582,121	13,123,909	12,467,713	11,844,327	11,252,110	11,621,325
Total Operating Expenses	9,951,770.74	9,861,770	9,861,770	9,368,681	8,900,247	8,900,247	8,455,235	8,032,473
Net Operating Revenue	4,630,350.37	4,720,351	4,720,351	3,755,228	3,567,466	2,944,080	2,796,875	3,588,852
General Taxes (not incl. Income Taxes)	1,019,544.76	969,544	969,544	969,544	969,544	969,544	969,544	969,544
	3,610,805.61	3,750,807	3,750,807	2,785,684	2,597,922	1,974,536	1,827,331	2,619,308
Non-Operating Income	37,674.29	37,674	3,000	3,000	3,000	3,000	3,000	3,000
	3,648,479.90	3,788,481	3,753,807	2,788,684	2,600,922	1,977,536	1,830,331	2,622,308
Interest on Funded Debt	678,347.75	621,885	360,000	360,000	360,000	360,000	360,000	360,000
Amortization of Discount on Funded Debt	47,427.75	42,840	-	-	-	-	-	-
Miscellaneous Debits	15,482.37	15,000	15,000	15,000	15,000	15,000	15,000	15,000
Interest & Other Fixed Charges	741,257.87	679,725	375,000	375,000	375,000	375,000	375,000	375,000
Net Income before Federal & State Income Taxes	2,907,222.03	3,108,756	3,378,807	2,413,684	2,225,922	1,602,536	1,455,331	2,247,308
Federal & State Taxes on Income	1,571,084.19							
Net Income to Profit and Loss	$ 1,336,137.84							
Sinking Fund			225,000	225,000	225,000	225,000	225,000	225,000
Revenue Passengers	173,280,097	177,352,830	177,352,830	159,617,710	151,636,820	144,055,050	136,852,220	130,009,600
Average Fare	8.16¢	7.97¢	7.97¢	7.97¢	7.97¢	7.97¢	7.97¢	8.70¢
Average Fare System 1942 8.70¢ (8-1/3-10) Average Fare System 1940 7.97¢ (7-1/2-10) Basis of Estimate		Same as 1943 Except $90,000 Pension $50,000 Harriet R/W. Int. on $11,307,000	Same as 1944 Except Bond Int. 4% on $9,000,000 No amort. of Discount Misc. Inc. $3,000	Rev. —10% Op.Exp. —5% Bond Int. $360,000 Misc. Inc. $3,000	Rev. —5% Op.Exp. —5% Bond Int. $360,000 Misc. Inc. $3,000	Rev. —5% Op. same as '47 Bond Int. $360,000 Misc. Inc. $3,000	Rev. —5% Op.Exp. —5% Bond Int. $300,000 Misc. Inc. $3,000	Pass. —5% Rev. at inc. fare 8-1/3¢ & 10¢; aver. 8.70¢ Other Rev. —10% Oper. Exp. —5% Misc. Inc. $3,000

1942 STREET RAILWAY OPERATING EXPENSES PER CAR MILE

City	Population Served	Total Opr. Expenses (Excl. Depr.)	Depreciation	Power	Way and Structures	Equipment	Conducting Transportation	General & Misc.	Wages of Passenger Trainmen
TWIN CITIES	860,000	24.91	4.39	2.93	2.10	2.57	14.06	3.17	10.95
Toronto (a)	787,000	25.67	4.67	3.77	1.91	3.38	13.02	3.64	9.12
Kansas City	575,000	26.31	4.68	4.99	2.93	2.43	11.19	4.59	7.97
Indianapolis	480,000	27.00	-	4.70	3.00	3.66	11.25	4.22	8.50
St. Louis	1,060,000	27.54	4.33	5.11	2.52	2.55	11.63	5.68	9.54
Montreal	1,505,430	28.28	5.07	3.68	3.01	3.39	15.00	3.20	12.00
Los Angeles	1,609,828	29.15	4.47	3.27	2.07	3.36	15.50	4.70	12.19
Cincinnati	555,000	29.18	4.03	4.55	2.48	2.74	15.04	4.21	11.34
Louisville	450,000	29.53	5.08	5.92	5.60	2.89	11.03	4.09	8.55
Portland, Ore.	443,000	30.40	4.40	3.30	2.59	4.82	15.83	3.61	12.74
Philadelphia	2,460,600	32.40 (a)	-	4.78	3.78	3.74	17.33	-	11.74
New Orleans	500,000	33.36	-	3.09	3.02	2.46	19.66	4.53	15.48
Chicago (a)	3,721,027	34.25	3.71	3.31	2.38	3.57	21.32	3.61	18.33
San Francisco Market Street Ry.	728,236	35.97	4.22	5.81	2.04	2.30	20.47	5.41	17.53
Baltimore	1,112,000	36.36	5.24	5.01	4.80	3.93	16.15	6.34	11.37
Washington	1,051,000	36.62	4.47	4.31	3.33	3.27	11.63	5.20	15.57
San Francisco Municipal Ry.	728,236	38.49	4.15	6.45	2.32	2.51	23.61	3.64	20.16
Detroit	2,030,500	38.52	4.63	5.25	1.83	3.55	24.38	3.51	20.97
Cleveland	1,150,000	40.36	-	3.97	3.99	3.63	21.46	6.09	18.11

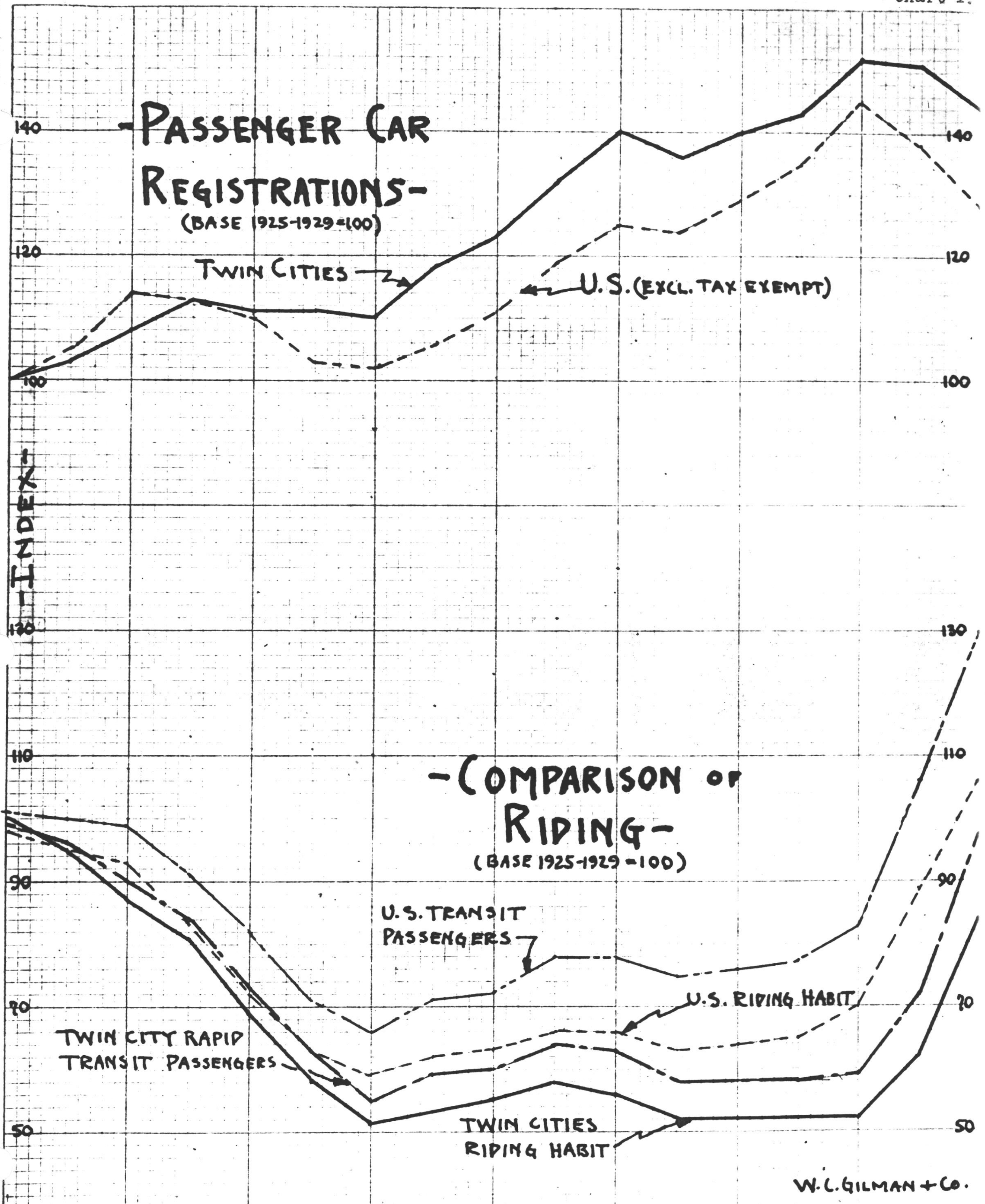
(a) Includes Buses.

Source: American Transit Association

W. C. GILMAN & COMPANY

Exhibit F

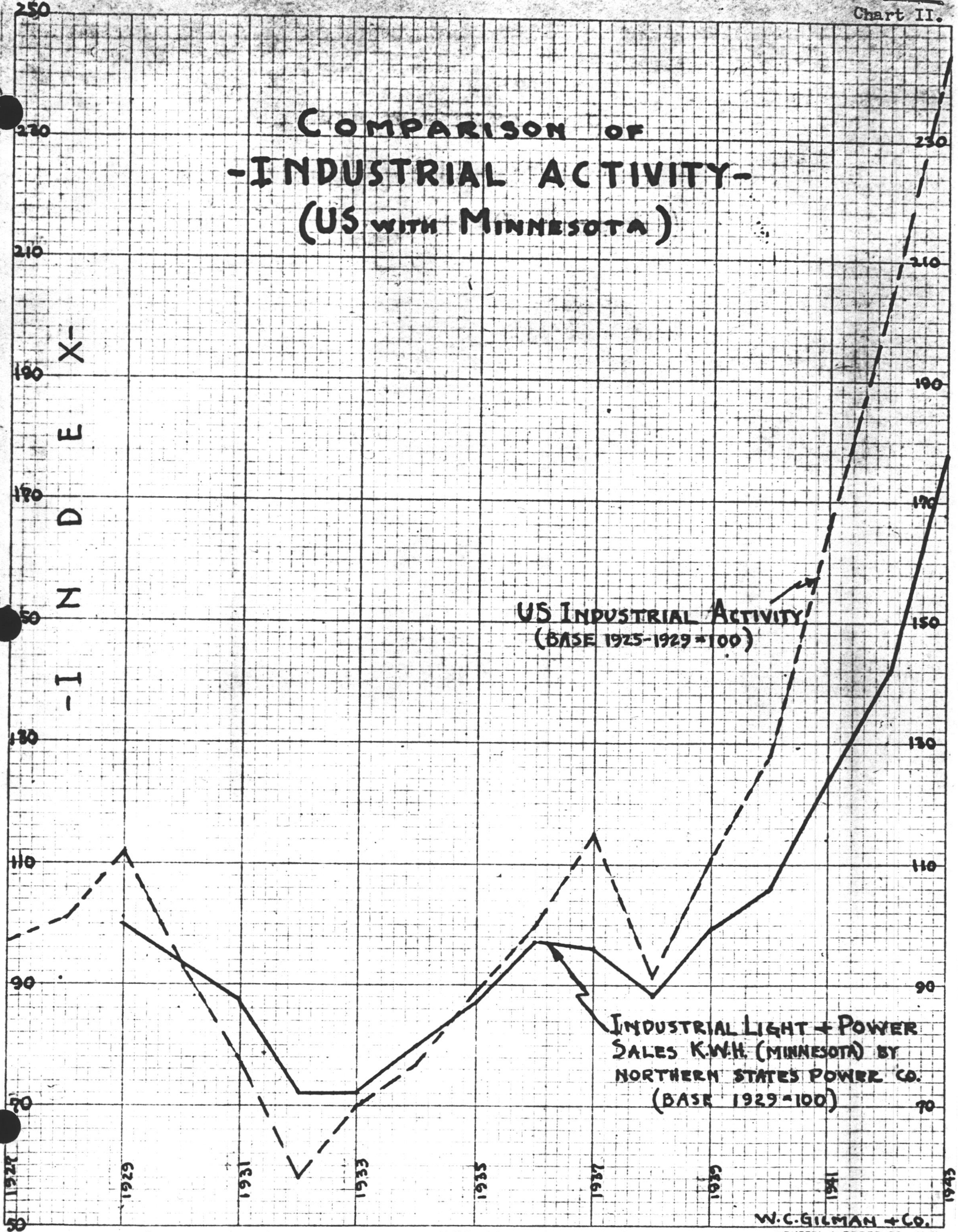
Chart 1.



KEUFFEL & ESSER CO. N.Y.

Chart II.

COMPARISON OF -INDUSTRIAL ACTIVITY- (US WITH MINNESOTA)



W. C. GILMAN + CO.

KEUFFEL & ESSER CO., N.Y.
10 × 10 to the inch